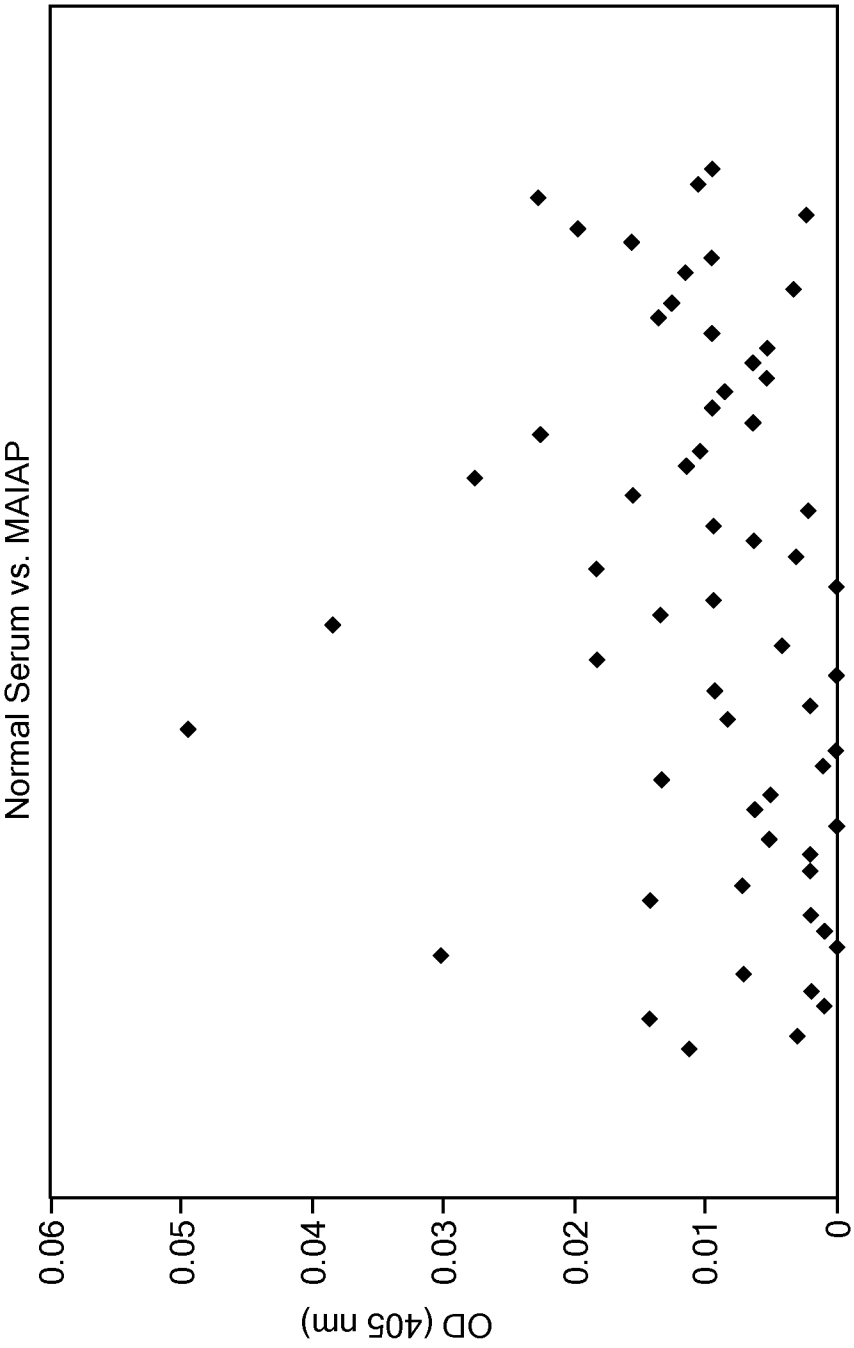
Normal Serum vs. MAIAP
OD (405 nm)
0.06
0.05
0.04
0.03
0.02
0.01
0
1:100 Dilution, 60 Samples

FIG. 1

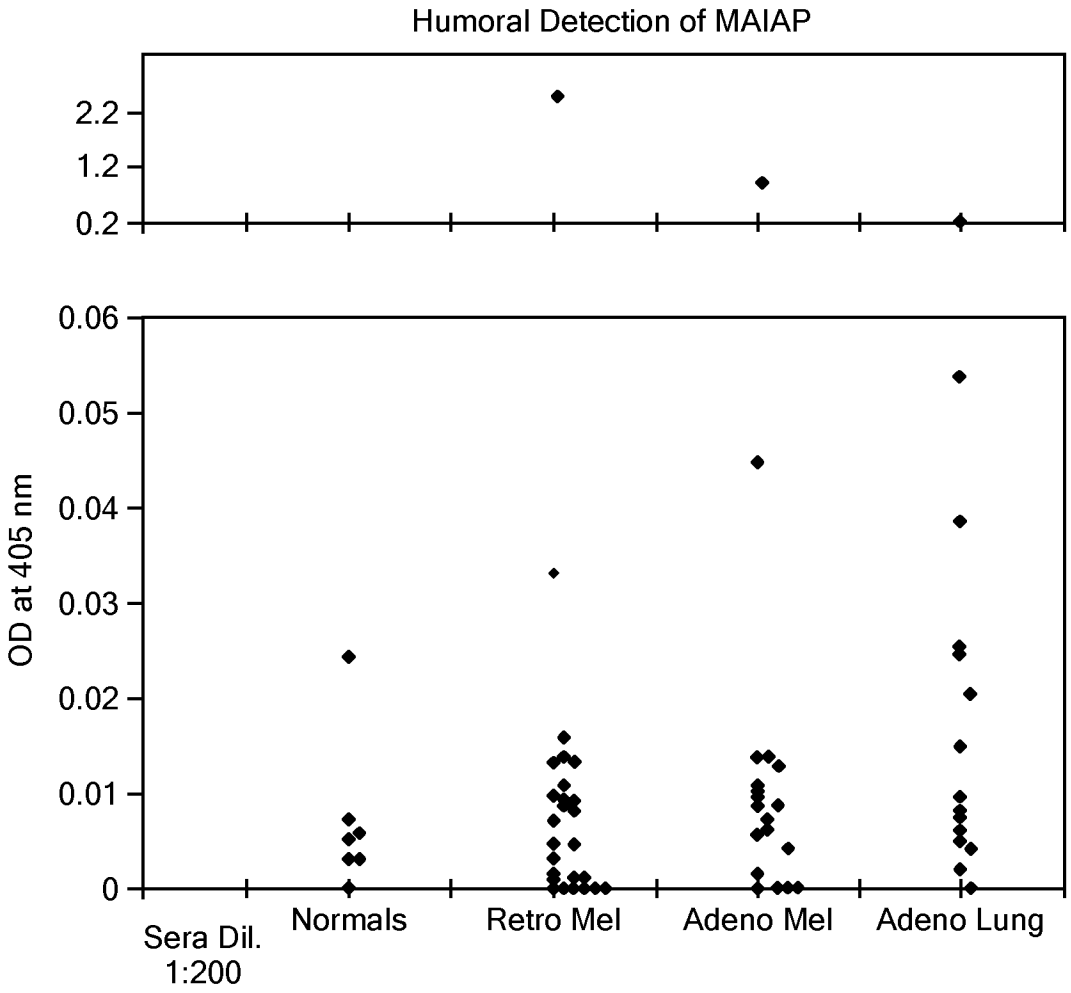
Humoral Detection of MAIAP
2.2
1.2
0.2
0.06
0.05
0.04
0.03
0.02
0.01
0
OD at 405 nm
Sera Dil.
1:200
Normals
Retro Mel
Adeno Mel
Adeno Lung

FIG. 2

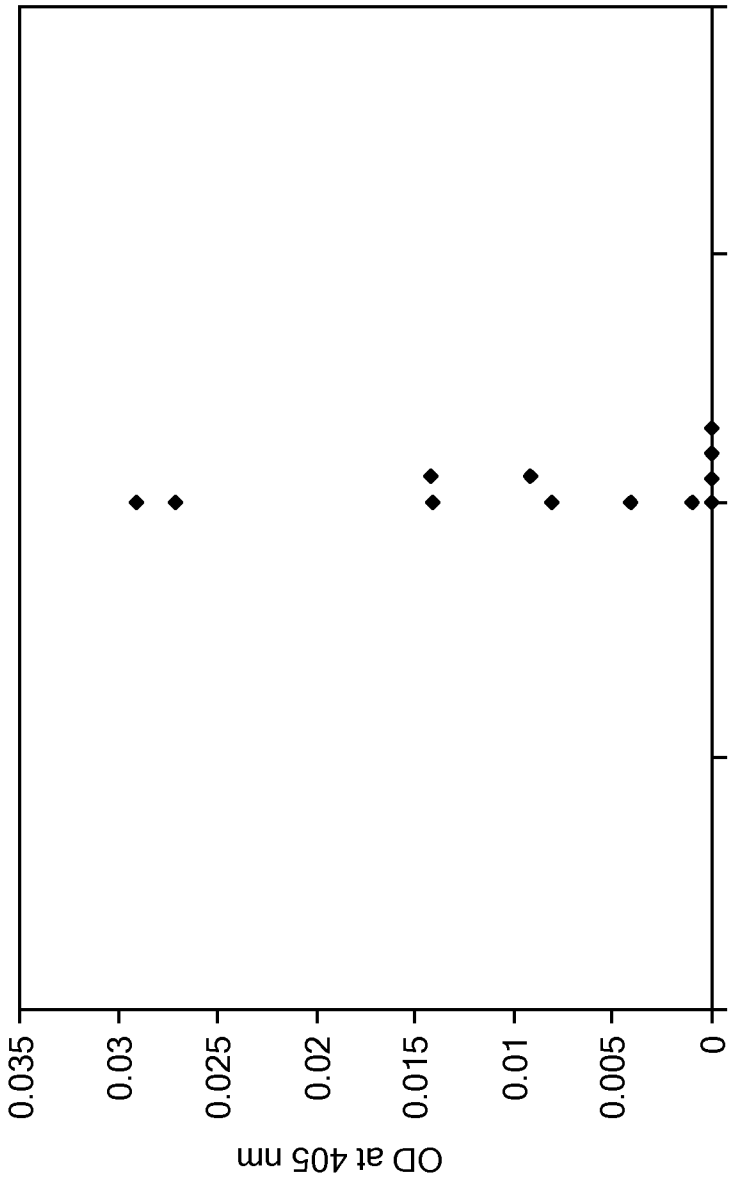
Prostate Cancer Patient's Serum vs. MAIAP
OD at 405 nm
0.035
0.03
0.025
0.02
0.015
0.01
0.005
0
Sera Dil.
1:200

FIG. 3

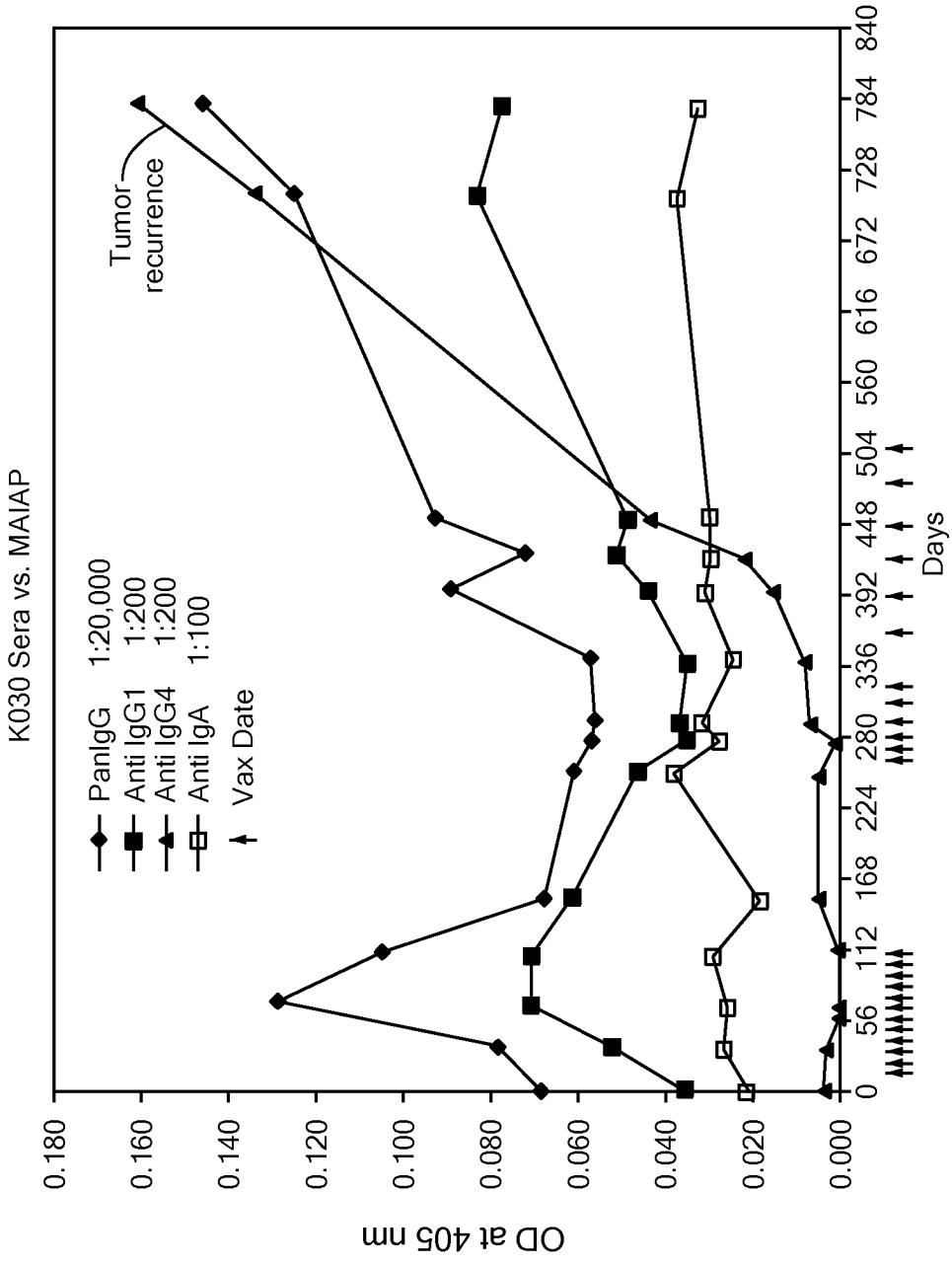
K030 Sera vs. MAIAP
PanIgG 1:20,000
Anti IgG1 1:200
Anti IgG4 1:200
Anti IgA 1:100
Vax Date
Tumor recurrence
OD at 405 nm
0.180
0.160
0.140
0.120
0.100
0.080
0.060
0.040
0.020
0.000
0
56
112
168
224
280
336
392
448
504
560
616
672
728
784
840
Days

FIG. 4

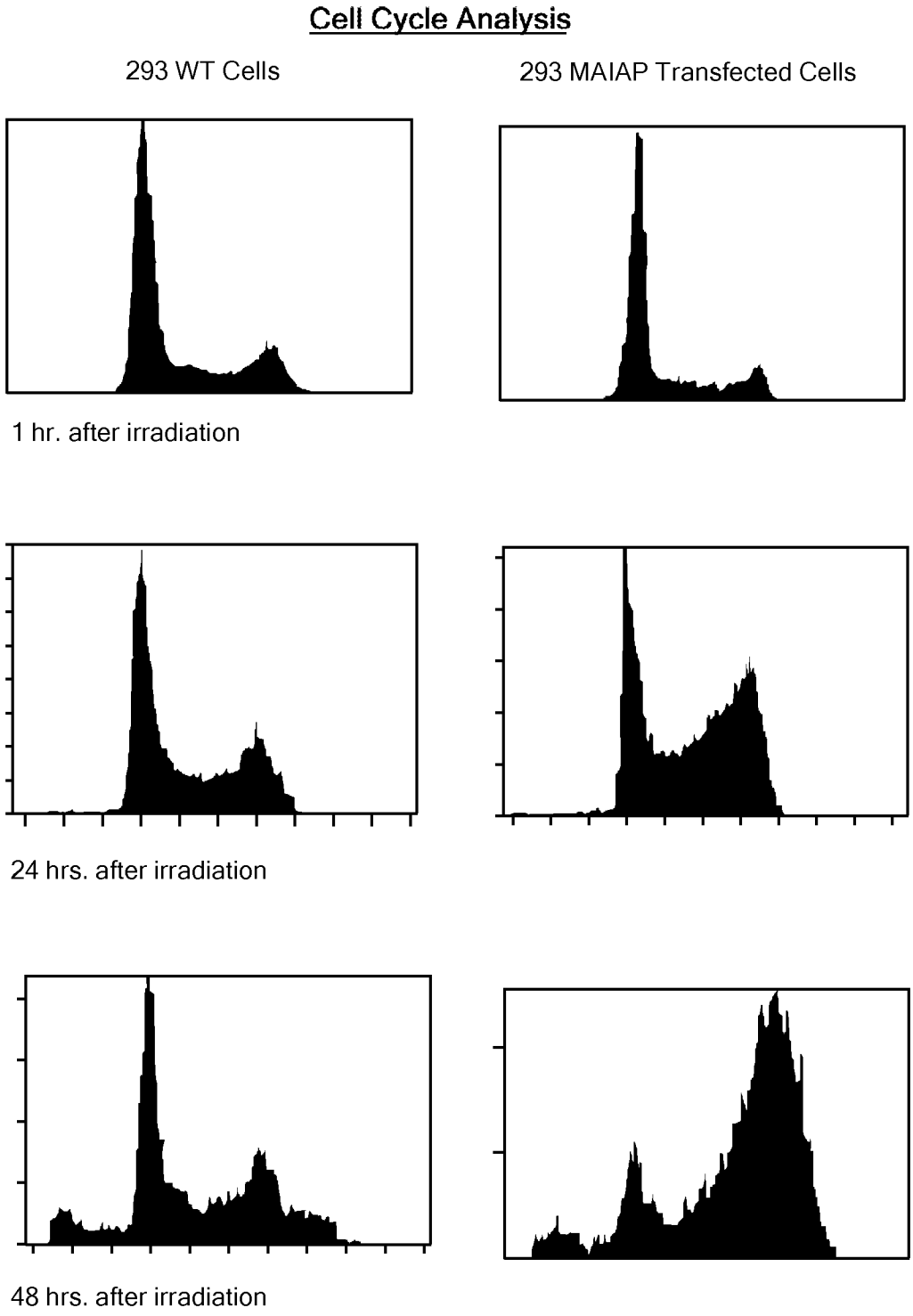
Cell Cycle Analysis
293 WT Cells
293 MAIAP Transfected Cells
1 hr. after irradiation
24 hrs. after irradiation
48 hrs. after irradiation

FIG. 5

ATGACAGGGTCCAGAAACTGGCGAGCCACGAGGGACATGTGTAGGTATCG
GCACAACTATCCGGATCTGGTGGAACGAGACTGCAATGGGGACACGCCAA
ACCTGAGTTTCTACAGAAATGAGATCCGCTTCCTGCCCAACGGCTGTTTC
ATTGAGGACATTCTTCAGAACTGGACGGACAACTATGACCTCCTTGAGGA
CAATCACTCCTACATCCAGTGGCTGTTTCCTCTGCGAGAACCAGGAGTGA
ACTGGCATGCCAAGCCCCTCACGCTCAGGGAGGTCGAGGTGTTTAAAAGC
TCCCAGGAGATCCAGGAGCGGCTTGTCCGGGCCTACGAGCTCATGCTGGG
CTTCTACGGGATCCGGCTGGAGGACCGAGGCACGGGCACGGTGGGCCGAG
CACAGAACTACCAGAAGCGCTTCCAGAACCTGAACTGGCGCAGCCACAAC
AACCTCCGCATCACACGCATCCTCAAGTCGCTGGGTGAGCTGGGCCTCGA
GCACTTCCAGGCGCCGCTGGTCCGCTTCTTCCTGGAGGAGACGCTGGTGC
GGCGGGAGCTGCCGGGGGTGCGGCAGAGTGCCCTGGACTACTTCATGTTC
GCCGTGCGCTGCCGACACCAGCGCCGCCAGCTGGTGCACTTCGCCTGGGA
GCACTTCCGGCCCCGCTGCAAGTTCGTCTGGGGGCCCCAAGACAAGCTGC
GGAGGTTCAAGCCCAGCTCTCTGCCCCATCCGCTCGAGGGCTCCAGGAAG
GTGGAGGAGGAAGGAAGCCCCGGGGACCCCGACCACGAGGCCAGCACCCA
GGGTCGGACCTGTGGGCCAGAGCATAGCAAGGGTGGGGGCAGGGTGGACG
AGGGGCCCCAGCCACGGAGCGTGGAGCCCCAGGATGCGGGACCCCTGGAG
AGGAGCCAGGGGGATGAGGCAGGGGGCCACGGGGAAGATAGGCCGGAGCC
CTTAAGCCCCAAAGAGAGCAAGAAGAGGAAGCTGGAGCTGAGCCGGCGGG
AGCAGCCGCCCACAGAGCCAGGCCCTCAGAGTGCCTCAGAGGTGGAGAAG
ATCGCTCTGAATTTGGAGGGGTGTGCCCTCAGCCAGGGCAGCCTCAGGAC
GGGGACCCAGGAAGTGGGCGGTCAGGACCCTGGGGAGGCAGTGCAGCCCT
GCCGCCAACCCCTGGGAGCCAGGGTGGCCGACAAGGTGAGGAAGCGGAGG
AAGGTGGATGAGGGTGCTGGGGACAGTGCTGCGGTGGCCAGTGGTGGTGC
CCAGACCTTGGCCCTTGCCGGGTCCCCTGCCCCATCGGGGCACCCCAAGG
CTGGACACAGTGAGAACGGGGTTGAGGAGGACACAGAAGGTCGAACGGGG
CCCAAAGAAGGTACCCCTGGGAGCCCATCGGAGACCCCAGGCCCCCGCCC
AGCAGGACCTGCAGGGGACGAGCCAGCCGAGAGCCCATCGGAGACCCCAG
GCCCCAGCCCGGCAGGACCTACAAGGGATGAGCCAGCCGAGAGCCCATCG
GAGACCCCAGGCCCCCGCCCGGCAGGACCTGCAGGGGACGAGCCAGCCGA
GAGCCCATCGGAGACCCCAGGCCCCCGCCCGGCAGGACCTGCAGGGGACG
AGCCAGCCGAGAGCCCATCGGAGACCCCAGGCCCCAGCCCGGCAGGACCT
ACAAGGGATGAGCCAGCCAAGGCGGGGGAGGCAGCAGAGTTGCAGGACGC
AGAGGTGGAGTCTTCTGCCAAGTCTGGGAAGCCTTAA

FIG. 6

MTGSRNWRATRDMCRYRHKYPDLVERDCNGDTPNLSFYRNEIRFLPNGCFIEDIL
QNWTDNYDLLEDNHSYIQWLFPLREPGVNWHAKPLTLREVEVFKSSQEIQERLV
RAYELMLGFYGIRLEDRGTGTVGRAQNYQKRFQNLNWRSHNNLRITRILKSLGEL
GLEHFQAPLVRFFLEETLVRRELPGVRQSALDYFMFAVRCRHQRRQLVHFAWEH
FRPRCKFVWGPQDKLRRFKPSSLPHPLEGSRKVEEEGSPGDPDHEASTQGRTCGPE
HSKGGGRVDEGPQPRSVEPQDAGPLERSQGDEAGGHGEDRPEPLSPKESKKRKLEL
SRREQPPTEPGPQSASEVEKIALNLEGCALSQGSLRTGTQEVGGQDPGEAVQPCRQP
LGARVADKVRKRRKVDEGAGDSAAVASGGAQTLALAGSPAPSGHPKAGHSEN
GVEEDTEGRTGPKEGTPGSPSETPGPRPAGPAGDEPAESPSETPGPSPAGPTRDEPAE
SPSETPGPRPAGPAGDEPAESPSETPGPRPAGPAGDEPAESPSETPGPSPAGPTRDEP
AKAGEAAELQDAEVESSAKSGKP

FIG. 7

MRVLGTVLRWPVVVPRPWPLPGPLPHRGTPRLDTVRTGLRRTQKVERGPKKVPL
GAHRRPQAPAQQDLQGTSQPRAHRRPQAPARQDLQGMSQPRAHRRPQAPARQDL
QGTSQPRAHRRPQAPARQDLQGTSQPRAHRRPQAPARQDLQGMSQPRRGRQQSC
RTQRWSLLPSLGSL

FIG. 8

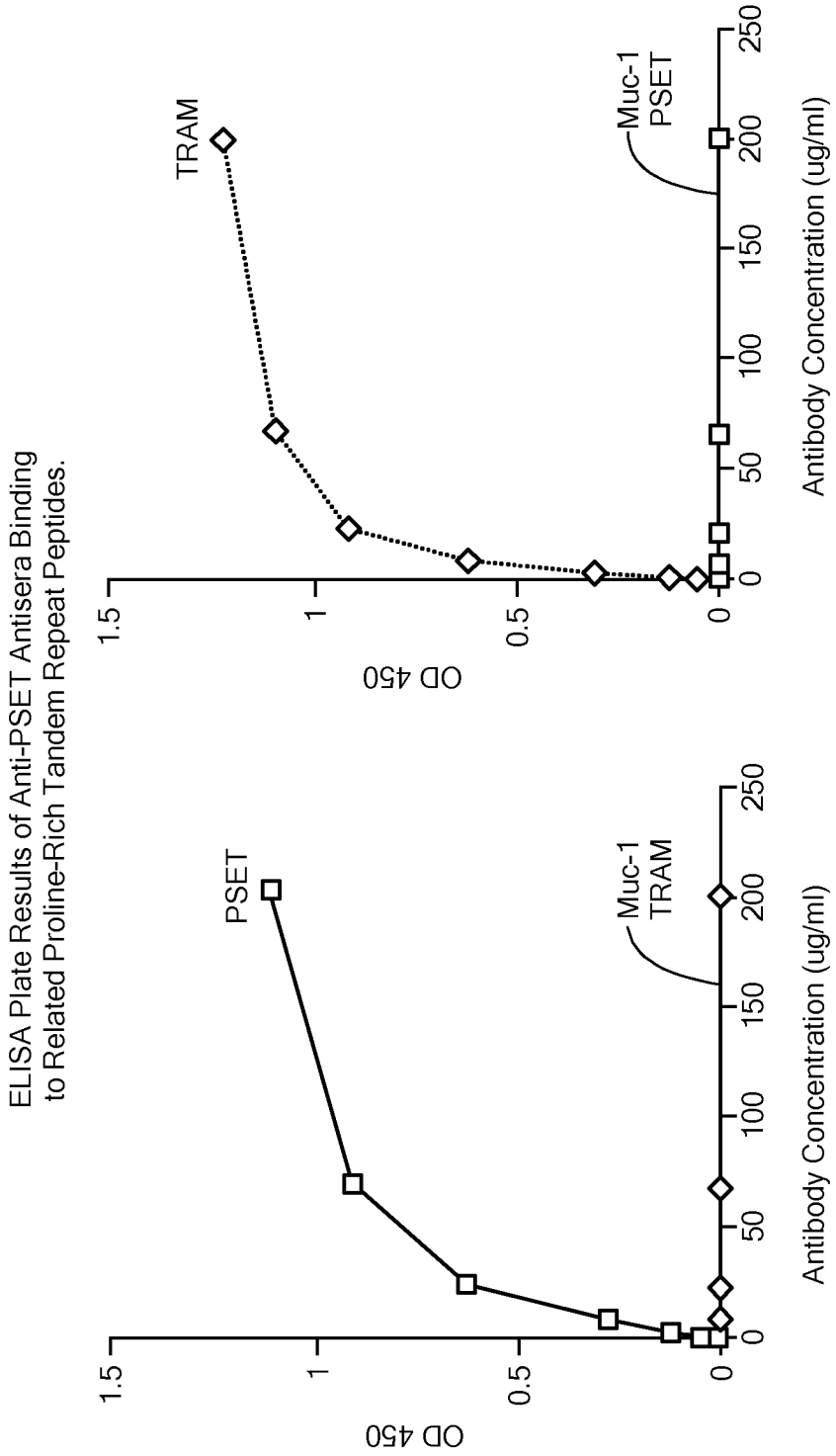
ELISA Plate Results of Anti-PSET Antisera Binding
to Related Proline-Rich Tandem Repeat Peptides.
OD 450
1.5
1
0.5
0
0
50
100
150
200
250
Antibody Concentration (ug/ml)
PSET
Muc-1
TRAM
TRAM
Muc-1
PSET

FIG. 9

ELISA Plate Results of Anti-MUC-1 Antisera Binding to Related Proline-Rich Tandem Repeat Peptides.

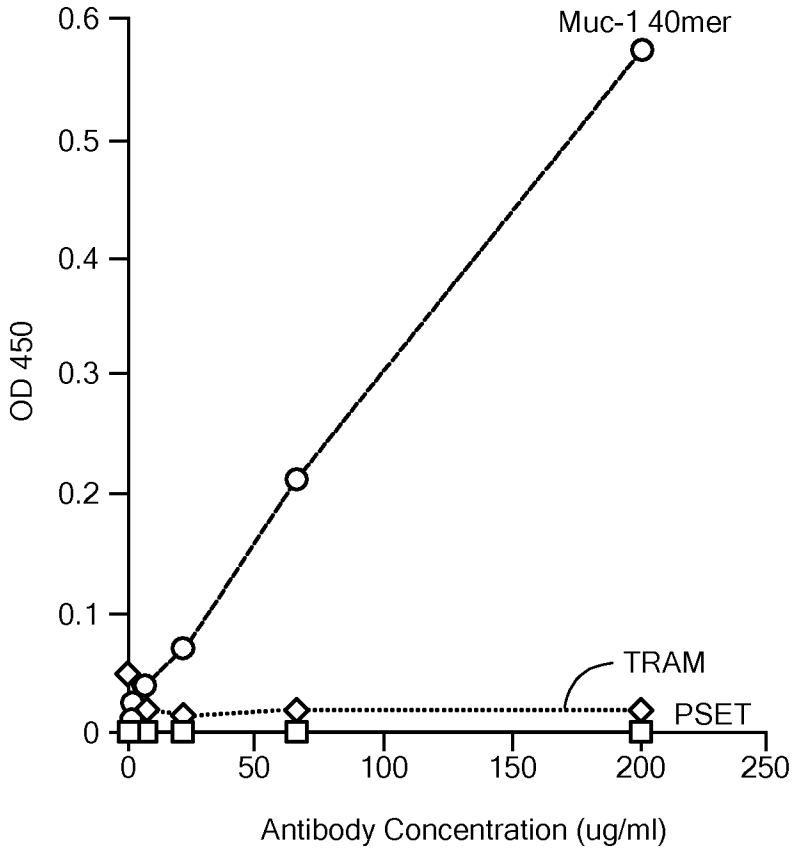

FIG. 10

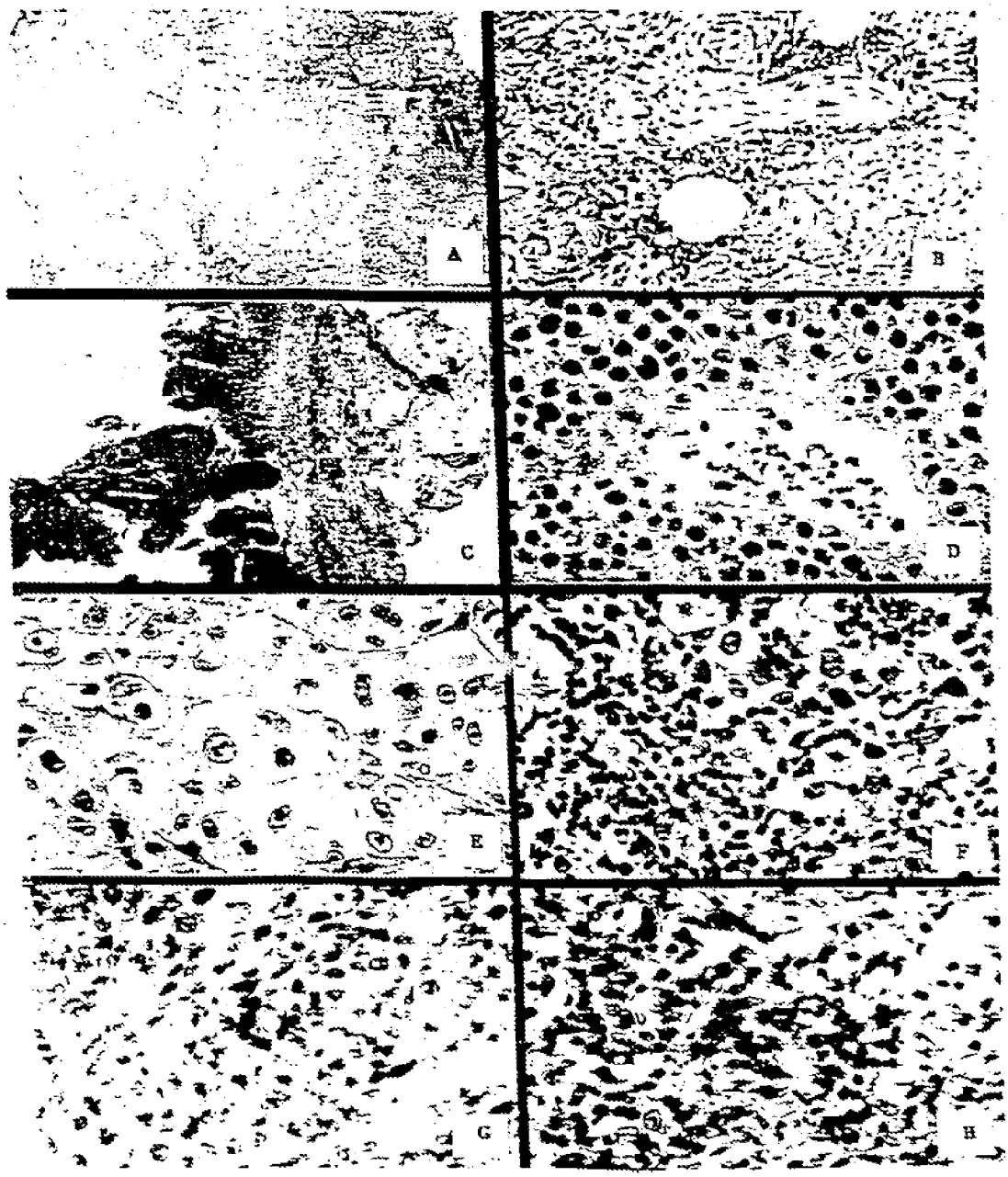

FIG. 11

Treatment Day	IL- pg/ml	IL-4 pg/ml	IL-5 pg/ml	IL-6 pg/ml	IL-10 pg/ml	GM-CSF pg/ml	γ-IFN g/ml	TNF-β pg/m
Tumor	0	0	0	0	0	0	0	0
Day 6	0	0	0	2.78	0	0	50	0
Day 28	163	0	6.45	3.71	20	724	0	50
Day 56	411	45	15.81	1.91	204	804	0	0
Day 150	831	45	21.17	2.23	127	1,027	0	0

FIG. 12

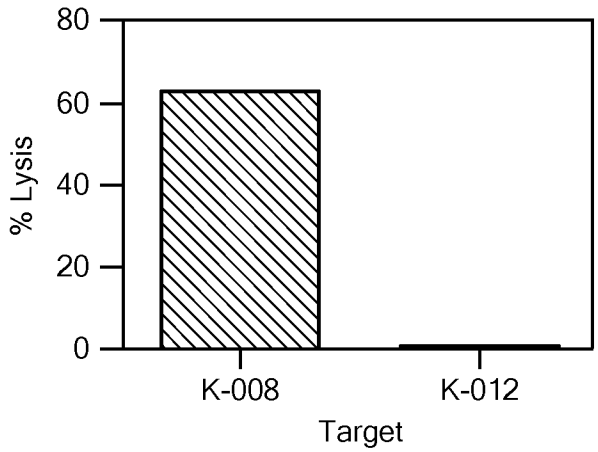

FIG. 13

Source	IL-4 pg/ml	IL-5 pg/ml	IL-6 pg/ml	IL-10 pg/ml	GM-CSF pg/ml	γ-IFN g/ml
TTLs	166	7.7	2.9	2095	241	171
Metastatis	0	0	1.12	8.4	0	0

FIG. 14

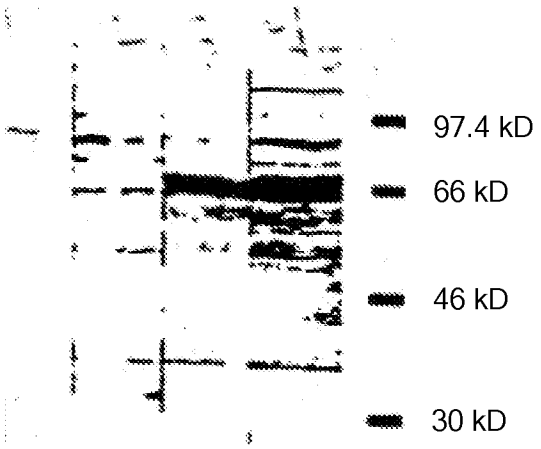

FIG. 15

Serum → / ↓ Tumor	K08	K016	K017	K023	K027	K029	K032
K008 M	++	+	+	++	+++	++	+
K016 V	ND	0	ND	ND	ND	ND	ND
K017 V	0	ND	+	ND	ND	+	ND
K023 V	ND	ND	ND	0	++	1/2+	ND
K023 M	1/2+	ND	ND	+	ND	0	+
K027 M	+++	+	0	0	0	0	+
K029 V	++	0	1/2+	0	+	0	0
K029 M	+	0	1/2+	0	+	0	0

FIG. 16

TRAAM (a novel gene; 5' end)

TTCGGTTTCGCTTCCGCCTCCAGCGCGAGCCCCGCCGCCGCCGAGCATGGACGACCCCGA
CTGCGACTCCACCTGGGAGGAGGACGAGGAGGATGCGGAGGACGCGGAGGACGAGGACTG
CGAGGACGGCGAGGCCGCCGGCGCGAGGGACGCGGACGCAGGGGACGAGGACGAGGAGTC
GGAGGAGCCGCGGGCGGCGCGGCCCAGCTCGTTCCAGTCCAGAATGACAGGGTCCAGAAA
CTGGCGAGCCACGAGGGACATGTGTAGGTATCGGCACAACTATCCGGATCTGGTGGAACG
AGACTGCAATGGGGACACGCCAAACCTGAGTTTCTACAGAAATGAGATCCGCTTCCTGCC
CAACGGCTGTTTCATTGAGGACATTCTTCAGAACTGGACGGACAACTATGACCTCCTTGA
GGACAATCACTCCTACATCCAGTGGCTGTTTCCTCTGCGAGAACCAGGAGTGAACTGGCA
TGCCAAGCCCCTCACGCTCAGGGAGGTCGAGGTGTTTAAAAGCTCCCAGGAGATCCAGGA
GCGGCTTGTCCGGGCCTACGAGCTCATGCTGGGCTTCTACGGGATCCGGCTGGAGGACCG
AGGCACGGGCACGGTGGGCCGAGCACAGAACTACCAGAAGCGCTTCCAGAACCTGAACTG
GCGCAGCCACAACAACCTCCGCATCACACGCATCCTCAAGTCGCTGGGTGAGCTGGGCCT
CGAGCACTTCCAGGCGCCGCTGGTCCGCTTCTTCCTGGAGGAGACGCTGGTGCGGCGGGA
GCTGCCGGGGGTGCGGCAGAGTGCCCTGGACTACTTCATGTTCGCCGTGCGCTGCCGACA
CCAGCGCCGCCAGCTGGTGCACTTCGCCTGGGAGCACTTCCGGCCCCGCTGCAAGTTCGT
CTGGGGGCCCCAAGACAAGCTGCGGAGGTTCAAGCCCAGCTCTCTGCCCCATCCGCTCGA
GGGCTCCAGGAAGGTGGAGGAGGAAGGAAGCCCCGGGGACCCCGACCACGAGGCCAGCAC
CCAGGGTCGGACCTGTGGGCCAGAGCATAGCAAGGGTGGGGGCAGGGTGGACGAGGGGCC
CCAGCCACGGAGCGTGGAGCCCCAGGATGCGGGACCCCTGGAGAGGAGCCAGGGGGATGA
GGCAGGGGGCCACGGGGAAGATAGGCCGGAGCCCTTAAGCCCCAAAGAGAGCAAGAAGAG
GAAGCTGGAGCTGAGCCGGCGGGAGCAGCCGCCCACAGAGCCAGGCCCTCAGAGTGCCTC
AGAGGTGGAGAAGATCGCTCTGAATTTGGAGGGGTGTGCCCTCAGCCAGGGCAGCCTCAG
GACGGGGACCCAGGAAGTGGGCGGTCAGGACCCTGGGGAGGCAGTGCAACCCTGCCGGCA
ACCCCTGGGAGCCAGGGTGGCCGACAAGGTGAGGAAACCGGAGGAAGGTGGAT

TRAAM (amino terminus)

SVSLPPPARAPPPPSMDDPDCDSTWEEDEEDAEDAEDEDCEDGEAAGARDADAGDEDE
ESEEPRAARPSSFQSRMTGSRNWATRDMCRYRHNYPDLVERDCNGDTPNLSFYRNEIR
FLPNGCFIEDILQNWTDNYDLLEDNHSYIQWLFPLREPGVNWHAKPLTLREVEVFKSSQ
EIQERLVRAYELMLGFYGIRLEDRGTGTVGRAQNYQKRFQNLNWRSHNNLRITRILKSL
GELGLEHFQAPLVRFFLEETLVRRELPGVRQSALDYFMFAVRCRHQRRQLVHFAWEHF
RPRCKFVWGPQDKLRRFKPSSLPHPLEGSRKVEEEGSPGDPDHEASTQGRTCGPEHSKG
GGRVDEGPQPRSVEPQDAGPLERSQGDEAGGHGEDRPEPLSPKESKKRKLELSRREQPP
TEPGPQSASEVEKIALNLEGCALSQGSLRTGTQEVGGQDPGEAVQPCRQPLGARVADKV
RKPEEGG

TRAAM (3' end; sequence represents the coding strand of the gene, presented 5' to 3')

CGCGGTGGCTAGTGGTGGTGCCCAGACCTTGGCCCTTGCCGGGTCCCCTGCCCCATCGGG
GCACCCCAAGGCTGGACACAGTGAGAACGGGGTTGAGGAGGACACAGAAGGTCGAACGGG
GCCCAAAGAAGGTACCCCTGGGAGCCCATCGGAGACCCCAGGCCCCAGCCCAGCAGGACC
TGCAGGGGACGAGCCAGCCGAGAGCCCATCGGAGACCCCAGGCCCCCGCCCAGCAGGACC
TGCAGGGGACGAGCCGGCCGAGAGCCCATCGGAGACCCCAGGCCCCCGCCCAGCAGGACC
TGCAGGGGACGAGCCAGCCAAGACCCCATCGGAGACCCCAGGCCCCAGCCCGGCAGGACC
TACAAGGGATGAGCCAGCCGAGAGCCCATCGGAGACCCCAGGCCCCCGCCCGGCAGGACC
TGCAGGGGACGAGCCAGCCGAGAGCCCATCGGAGACCCCAGGCCCCCGCCCGGCAGGACC
TGCAGGGGACGAGCCAGCCGAGAGCCCATCGGAGACCCCAGGCCCCAGCCCGGCAGGACC
TACAAGGGATGAGCCAGCCAAGGCGGGGGAGGCAGCAGAGTTGCAGGACGCAGAGGTGGA
GTCTTCTGCCAAGTCTGGGAAGCCTTAAGGAAAGGAGTGCCCGTCGGCGTCTTGGTCCTC
CTGTCCCTGCTGCAGGGGCTGGGGCCTCCGGAGCTGCTGCGGGCTCCCCTCAGGCTCTGC
TTCGTGACCCGTGACCCATGACCCACAGTGCTGGCCTCCTGTGGGGCCACTATAGCAGCC
ACCAGAAGCCGCGAGGCCCTCAGGGAAGCCCAAGGCCTGCAGAAGCCTCCTGGCCTGGCT
GTGTCTTCCCCACCCAGCTCTCCCCTGCGCCCCTGTCTTTGTAAATTGACCCTTCTGGAG
TGGGGGGCGGCGGGCAGGGCTGCTTTTCTTAGTCTGATGCCAAGCAAGGCCTTTTCTGAA
TAAATTCATTTGACTTTG

FIG. 17A

TRAAM (carboxy terminus)

RWLVVVPRPWPLPGPLPHRGTPRLDTVRTGLRRTQKVERGPKKVPLGAHRRPQAPAQQ
DLQGTSQPRAHRRPQAPAQQDLQGTSRPRAHRRPQAPAQQDLQGTSQPRPHRRPQAPA
RQDLQGMSQPRAHRRPQAPARQDLQGTSQPRAHRRPQAPARQDLQGTSQPRAHRRPQ
APARQDLQGMSQPRRGRQQSCRTQRWSLLPSLGSLKERSARRRLGPPVPAAGAGASGA
AAGSPQALLRDP

KIAA0603 (in the database as a human brain cDNA of unknown function; the human homolog of mouse TBC)

GAACTGAGGAGCTTGTGGAGAAAAGCTATACACCAACAAATCTTGTTACTTCGAATGGAA
AAAGAAAACCAGAAACTTGAAGCAAGCAGAGATGAACTCCAGTCCAGAAAAGTTAAATTA
GACTATGAAGAAGTTGGTGCATGTCAGAAAGAGGTCTTAATAACTTGGGATAAGAAGTTG
TTAAACTGCAGAGCTAAAATCAGATGTGATATGGAAGATATTCATACTCTTCTTAAAGAA
GGAGTTCCCAAAAGTCGACGAGGAGAAATTTGGCAGTTTCTGGCTTTACAGTACCGACTC
AGACACAGATTGCCTAATAAACAACAGCCTCCTGACATATCCTATAAGGAACTTTTGAAG
CAGCTCACTGCTCAGCAGCATGCGATTCTTGTGGATTTAGGAAGGACGTTTCCTACTCAC
CCTTACTTTTCAGTACAGCTTGGGCCAGGACAGCTGTCACTGTTTAACCTCCTGAAAGCC
TATTCATTCTTTGCTGGACAAAGAATGGGATACTGTCAGGGGATCAGCTTTGTGGCTGGA
GTCCTGCTTCTGCACATGAGTGAAGAGCAAGCCTTTGAAATGCTGAAATTCCTCATGTAT
GACCTCGGCTTCCGCAAGCAGTACAGACCTGACATGATGTCGCTGCAGATTCAAATGTAC
CAGCTGTCCAGGCTCCTTCATGACTATCACAGAGATCTCTACAATCACCTTGAAGAAAAT
GAAATCAGCCCCAGTCTTTATGCTGCCCCCTGGTTCCTCACATTGTTTGCCTCTCAGTTT
TCATTAGGATTTGTAGCCAGAGTTTTTGATATTATTTTTCTTCAGGGAACTGAAGTTATA
TTCAAGGTTGCACTCAGCCTACTGAGCAGCCAAGAGACACTTATAATGGGAATGTGAGAG
CTTTGAAAATATTGTTGAGTTTCTTAAAAACACGCTACCTGATATGAATACCTCTGAAAT
GGAAAAAATTATTACCCAGGTTTTTGAGATGGATATTTCTAAGCAGTTGCATGCCTATGA
GGTGGAATATCATGTGCTACAGGATGAGCTTCAGGAATCTTCATATTCCTGTGAGGATAG
TGAAACTTTGGAGAAGCTGGAGAGGGCCAATAGCCAACTGAAAAGACAAAACATGGACCT
CCTAGAAAAATTACAGGTAGCTCATACTAAAATCCAGGCCTTGGAATCAAACCTGGAAAA
TCTTTTGACGAGAGAGACCAAAATGAAGTCTTTAATCCGGACCCTGGAACAAGAAAAAAT
GGCTTATCAAAAGACAGTGGAGCAACTCCGGAAGCTGCTGCCCGCGGATGCTCTAGTCAA
TTGTGACCTGTTGCTGAGAGACCTAAACTGCAACCCTAACAACAAAGCCAGATAGGAAAT
AAGCCATAATTGAAGAGCACGGCTCAGCAGAAAGTGCTCCTTAGAATACTACAGAGAGGA
AGAGCCTGCATGTCGCTGGCCCAAGGCTGGACCCTGAAGCTGATGGAACCACCTAATACT
GGTGCTGAGCTCCTAGTCACAGCAGGTGGACCTCGTGCTCATCAGAGCATGCCAATCTAA
GCCCATTGGACATAGTAGACTGGTTTTTGTTGTTGCTATGACATATAAATATATATATAA
AATGAACATAGTTCATGCTTTCAGATAAAATGAGTAGATGTATATTTAGATTAATTTTTT
TAGTCAGAACTTCATGAAATCCACACCAAAGGAAAGGTAAACTGAAATTTCCCTTGGACA
TATGTGAAATCTTTTTGTCTTTATAGTGAAACAAAGCCAGAGCATCTTTGTATATTGCAA
TATACTTGAAAAAAATGAATGTATTTTTTTCTCCAAAGAACAGCATGTTTCACTCAATGG
TGAAAAGGTGGAAACATTTATGTTAACTTTATGTGTTCTGTCTTGATATCTACTGACATT
GTCTATATGAGGAAAATGATTACTGGTCATGCTCCTGTGATTTTTTGGGAAGGTAGGGTC
ATTTCTCCCTGCCTGCTTTGTGCCAACTAGCATGTTGCATCTACTGCATTATGAATCTGG
TGGCTTACTTTTAAACATACTAAAAACAGTAGGACTTGGCTGAATCTACCCCCAGGTAAA
GGAGAATGTTGCTTATTTTTTAGCAAACTAACAGCCTTATTCTCAACTAAAATATCACAC
CTGAAAAATTTAATTTTTTGGTGCCACAGTCACCAAATGACAAGGATTTGCCACTTTCCC
ACCAAATTGTGAGTGCTTGTAATTTAGGTCTCTCTACCTTAAATTCAGTATAAGGAAACG
TAATTATGATTGATTTTTTCCAAAGATGACAAGCTGTGTTGAAATACATTTTTCTTTTGA
CCAATTGACAGAATCTAATAAGCTTTAATAATCTTCCCCTTTTATGTGAAAAGTTTTGAG
AACTGTGAAATGTTTAGGAACAAACTGTTGAAATCCATTGGAAGGGAAAAAAGAAAGTGG
TACCAGTGTTACCAGCTCAACTAAAACCTGCAATTGTGCATTTCAACTTTTCACTTCCTC
AGCATACAAATAGCTCATTAGAAGACATTCACGCATGGTGGGTATAGGCAAGGAAAGTAA
TTTTCAAAGTACATTTGCAGTTCTCTTTTTCAGAGATGATTCTATGATAGCGCCTCTGAA
AGTTGATGCAGCATTTTCGCCTTTCCAAAAAGTATTTATCCTCACTGCTTTTTGCAGTAC
TTGTATTTTCACAGATGGATTATCTGGGGTAATTTTCTTCAAAGGGAGTTTGTTATACAC
AGTGAAAATGTATTATAGAGTAGAATAGTAAAGCTCTAGGGGTTTCAGAAAGCTTTGATG

FIG. 17B

AACAGATGACAAACATCTGAAACCCCCTCCGCACTGTTACCCAGTGTGTATATAATGACT
TGTTATAGCTCAGTGTGCCCTTGAATCCATACAGTTTCTTAAAAGACAATAAAATCTTAT
TAATAAAGTTAATGTAACTTCTAAGTTCTAGAAAATGCTGATTCTGTCTGCCCCATTCAA
TTGGGGGCTACTAATTGATTTGTTGCTTGGATTTCCTGAGAATTTCTCTATTTGTAGGAG
GGGTTTTTTCTTTTTACGGTCTGTTGATGACAATTACTTTATGGGTGTGATGCACCGATG
GTAGCCAAGGAATCTGTTGGGGAAGTTCGGAAAGAAACCTTTTCTTTCTTTTATTCAGTT
TAAAGTAAACTTTATCCTGGATGTTTAGAATCAACATTAAGAGTTATATTATGGTGTTCA
GAGATTAAGCTGACTTGGATACAATATTTTCTTTTGAAAATGAATTTTCTTTTTCATTTG
TGATTTTTAAAAAATGTTGCACCAGTTATGCTTCATGCATCGTTACATCTTCATCAGGTT
TGTAAAATGTCTAGTTCCTTTGCAATAAATATATTGCTGC

UBP-3 (a novel nuclear ubiquitin-specific protease)

MTVRNIASICNMGTNASALEKDIGPEQFPINEHYFGLVNFGNTCYCNSVLQALYFCRPFR
ENVLAYKAQQKKKENLLTCLADLFHSIATQKKKVGVIPPKKFISRLRKENDLFDNYMQQ
DAHEFLNYLLNTIADILQEEKKQEKQNGKLKNGNMNEPAENNKPELTWVHEIFQGTLTN
ETRCLNCETVSSKDEDFLDLSVDVEQNTSITHCLRDFSNTETLCSEQKYYCETCCSKQEA
QKRMRVKKLPMILALHLKRFKYMEQLHRYTKLSYRVVFPLELRLFNTSSDAVNLDRMY
DLVAVVVHCGSGPNRGHYITIVKSHGFWLLFDDDIVEKIDAQAIEEFYGLTSDISKNSESG
YILFYQSRE

TPR/UBP-3 (a novel translocation; the 5' end is identical to the nucleoporin TPR and the 3' end is a novel nuclear ubiquitin-specific protease)

GAGAACTACAAAAAAGAAAAAGCAGAAAATGAAAAAATACAAAATGAGCAGCTTGAGAAA
CTTCAAGAACAAGTTACAGATTTGCGATCACAAAATACCAAAATTTCTACCCAGCTAGAT
TTTGCTTCTAAACGTTATGAAATGCTGCCAGATAATGTTGAAGGATATCGTCGAGAAATA
ACATCACTTCCTGAGAGAAATCAGAAACTCACTGCCACAACTCCAAAGCCAGAACAGATT
ATCCATACGATGACTCCGATTTGAGAGGAGCCAATGAGAAGCTAGCTGTCGCCGAAGTTT
GAGCCGAAAATTTGAAGAAGGAAAAGGAAATGCTTAAATTGTCTGAAGTTCGTCTTTCTC
AGCAAAGAGAGTCTTTGTTAGCTGAACAAAGGGGGCAAAACTTACTGCTAACTAATCTGC
AAACAATTCAGGGAATACTGGAGCGATCTGAAACAGAAACCAAACAAAGGCTTAGTAGCC
AGATAGAAAAACTGGAACATGAGATCTCTCATCTAAAGAAGAAGTTGGAAAATGAGGTGG
AACAAAGGCATACACTTACTAGAAATCTAGATGTTCAACTTTTAGATACAAAGAGACAAC
TGGATACAGAGACAAATCTTCATCTTAACACAAAAGAACTATTAAAAAATGCTCAAAAAG
AAATTGCCACATTGAAACAGCACCTCAGTAATATGGAAGTCCAAGTTGCTTCTCAGTCTT
CACAGAGAACTGGTAAAGGTCGGCCTAGCAACAAAGAAGATGTGGATGATCTTGTGAGTC
TGCTAAGACAGACAGAAGAGCAGGTGAATGACTTAAAGGAGAGACTCAAAAAAAACAAGT
ACGAGCAATGTGGAACAATATCAAGCAATGGTTACTAGTTTAGAAGAATCCCTGAACAAG
GAAAAACAGGTGACAGAAGAAGTGCGTAAGAATATTGAAGTTCGTTTAAAAGAGTCAGCT
GAATTTCAGACACAGTTGGAAAAGAAGTTGATGGAAGTAGAGAAGGAAAAACAAGAACTT
CAGGATGATAAAAGAAGAGCCATAGAGAGCATGGAACAACAGTTATCTGAATTGAAGAAA
ACACTTTCCTAGTGTTCAGAATGAAGTACAAGAAGCTCTTCAGAGAGCAAGCACAGCTTT
AAGTAATGAGCAGCAAGCCAGACGTGACTGTCAGGAACAAGCTAAAATAGCTGTGGAAGC
TCAGAATAAGTATGAGAGAGAATTGATGCTGCATGCTGCTGATGTTGAAGCTCTACAAGC
TGCGAAGGAGCAGGTTTCAAAAATGGCATCAGTCCGTCAGCATTTGGAAGAAACAACACA
GAAAGCAGAATCACAGTTGTTGGAGTGTAAAGCATCTTGGGAGGAAAGAGAGAGAATGTT
AAAGGATGAAGTTTCCAAATGTGTATGTCGCTGTGAAGATCTGGAGAAACAAAACAGATT
ACTTCATGATCAGATCGAAAAATTAAGTGACAAGGTCGTTGCCTCTGTGAAGGAAGGTGT
ACAAGGTCCCACTGAATGTATCTCTCAGTGAAGAAGGAAAATCTCAAGAACAAATTTTGG
AAATTCTCAGATTTATACGACGAGAAAAAGAAATTGCTGAAACTAGGTTTGAGGTGGCTC
AGGTTGAGAGTCTGCGTTATCGACAAAGGGTTGAACTTTTAGAAAGAGAGCTGCAGGAAC
TGCAAGATAGTCTAAATGCTGAAAGGGAGAAAGTCCAGGTAACTGCAAAAACAATGGCTC
AGCATGAAGAACTGATGAAGAAAACTGAAACAATGAATGTAGTTATGGAGACCAATAAAA
TGCTAAGAGAAGAGAAGGAGAGACTAGAACAGGATCTACAGCAAATGCAAGCAAAGGTGA

FIG. 17C

GGAAACTGGAGTTAGATATTTTACCCTTACAAGAAGCAAATGCTGAGCTGAGTGAGAAAA
GCGGTATGTTGCAGGCAGAGAAGAAGCTCTTAGAAGAGGATGTCAAACGTTGGAAAGCAC
GTAACCAGCATCTAGTAAGTCAACAGAAAGATCCAGATACAGAAGAATATCGGAAGCTCC
TTTCTGAAAAGGAAGTTCATACTAAGCGTATTCAACAATTGACAGAAGAAATTGGTAGAC
TTAAAGCTGAAATTGCAAGATCAAATGCATCTTTGACTAACAACCAGAACTTAATTCAGA
GTCTGAAGGAAGATCTAAATAAAGTAAGAACTGAAAAGGAAACCATCCAGAAGGACTTAG
ATGCCAAAATAATTGATATCCAAGAAAAAGTCAAAACTATTACTCAAGTTAAGAAAATTG
GACGTAGGTACAAGACTCAATATGAAGAACTTAAAGCACAACAGGATAAGGTTATGGAGA
CATCGGCTCAGTCTTCTGGAGACCATCAGGAGCAGCATGTTTCAGTCCAGGAAATGCAGG
AACTCAAAGAAACGCTCAACCAAGCTGAAACAAAATCAAAATCACTTGAAAGTCAAGTAG
AGAATTTGCAGAAGACATTATTTGAAAAAGAGACAGAAGCAAGAAATCTCCAGGAACAGA
CTGTGCAACTTCAGTCTGAACTTTCACGACTTTGTCAGGATTTTCAAGATAGAACCACAC
AGGAGGAGCAGCTCCGACAACAGATAACTAAAAAAAAAAAACTCGTGCCGAATTCGGCAC
GAGCTCCCAGCCAAATTGAAAGCCGGACCCCAGGCCGCCGCGTTGCCGCCCGGCCTCCCC
GCCAGCGCGCCACCATGGGCAGTCCCGGTTTCCCCTTGTAAAGATGGCGGTGAGGGATCG
CTGCAACCTTTAGATTAATGACTCTCCGAAACATCGCCTCCCATCTGTAATATGGGCACC
CAATGCTTTTGTTTTGGAAAAAGACATTGGTCCAGAGCAGTTTCCAATCAATGAACACTA
TTTCGGATTGGTCAATTTTGGAAACACATGCTACTGTAACTCCGTGCTTCAGGCATTGTA
CTTCTGCCGTCCATTCCGGGAGAATGTGTTGGCATACAAGGCCCAGCAAAAGAAGAAGGA
AAACTTGCTGACGTGCCTGGCGGACCTTTTCCACAGCATTGCCACACAGAAGAAGAAGGT
TGGCGTCATCCCACCAAAGAAGTTCATTTCAAGGCTGAGAAAAGAGAATGATCTCTTTGA
TAACTACATGCAGCAGGATGCTCATGAATTTTTAAATTATTTGCTAAACACTATTGCGGA
CATCCTTCAGGAGGAGAAGAAACAGGG

BRAP-2/H$^+$-ATPase (5' portion nearly identical with BRAP-2; 3' end identical to a portion of an accessory unit of H$^+$-ATPase)

AACAGATGGAAAAATAGTACAGTATGAATGTGAGGGGGATACTTGCCAGGAAGAGAAAAT
AGATGCCTTACAGTTAGAGTATTCATATTTACTAACAAGCCAGCTGGAATCTCAGCGAAT
CTACTGGGAAAACAAGATAGTTCGGATAGAGAAGGACACAGCAGAGGAAATTAACAACAT
GAAGACCAAGTTTAAAGAAACAATTGAGAAGTGTGATAATCTAGAGCACAAACTAAATGA
TCTCCTAAAAGAAAAGCAGTCTGTGGAAAGAAAGTGCACTCAGCTAAACACAAAAGTGGC
CAAACTCACCAACGAGCTCAAAGAGGAGCAGGAAATGAACAAGTGTTTGCGAGCCAACCA
AGTCCTCCTGCAGAACAAGCTAAAAGAGGAGGAGAGGGTGCTGAAGGAGACCTGTGACCA
AAAAGATCTGCAGATCACCGAGATCCAGGAGCAGCTGCGTGACGTCATGTTCTACCTGGA
GACACAGCAGAAGATCAACCATCTGCCTGCCGAGACCCGGCAGGAAATCCAGGAGGGACA
GATCAACATCGCCATGGCCTCGGCCTCGAGCCCTGCCTCTTCGGGGGGCAGTGGGAAGTT
GCCCTCCAGGAAGGGCCGCAGCAAGAGGGGCAAGTGACCTTCAGAGCAACAGACATCCCT
GAGACTGTTCTCCCTGACACTGTGAGAGTGTGCTGGGACCTTCAGCTAAATGTGAGGGTG
GGCCCTAATAAGTACAAGTGAGGATCAAGCCACAGTTGTTTGGCTCTTTCATTTGCTAGT
GTGTGATGTAGTGAATGTAAAGGGTGCTGACTGGAGAGCTGATAGAAAGGCGCTGCGTTC
GAAAAGGTCTTAAGAGTTCACTAACCTCACATTCTAATGACCATTTTGCCTTCCTGCTTG
GTAGAAGCCCCAACTCTGCTGTGCATTTTTCCATTGTATTTATGGAGTTGGCGTATTTGA
CATTCAGTTCTGGGGTAGGTTTAAGATGTTAAGTTATTTCTTGTAACCTCAAAGGTAAGG
TTATCTAGCACTAAAGCACCAAACCTCTCTGAGGGCATAACAGCTGCTTTAAAGAGAGGT
TTCCATTGGCTATTAAGGAGTTATGAAAACTCCCTAGCAATAGTGTCATATCATTATCAT
CTCCCCCTTCCTCTGGGGAGTGGAAGAATTGCTTGAATGTTATCTGAAAAGAGGCCTGGT
AGTAAACCAGGCCCTGGCTCTTTACCAGCAGTCATCTCTTCTTGCTCTGGGGCCAGCCAG
GAAAAACAAACAACCCGGGGCACATTGGGTAGACTCAGTGTAGGAAAAATGGTGGCAGCT
CCACTGTTTATTTTTGGTGACTTCGTACGTCATTATGAACCGCAATTAAGGAGGAGGCTT
AATGGCTGTTCCCAAACTCAAATCTCAGAGTGGGTATCCTAGCATCTAGCAAGACTGAGT
GGGGAGATTTCTCATCCGTGTGAAAATGTAGAGTGAGGCCTCTGACTAGCTAATTGTGTA
TTTTGTTGGGTTTAGTATTTTCTAAATGTTTACAAAATATTGGGCTGCATGTTCAGGTTG

FIG. 17D

CAGCTAGAGGGAGCTTGGGCAGATTTTCAATTACGCTTTCAAGATATAACCAAAAGCTGT
TTCTAAATCCTAAAATTAGAATTTCAACAGAGCCCCCTTTAGAACAGTCATATAACGCTT
GTGTGGGCCAACAGAGGGGCTGTGTACTCTCTCTGGAACCATAAATGTCAAATAATTTAT
AACCTGCAGTAATTGAGCAAACTTAAAATAAGACCTGTGTTGGAATTTAGTTTCTTGAAG
AGGTAGAGGGATAGGTTAGTAAGATGTATTGTTAAACAACAGGTTTTAGTTTTTGCTTTA
TAATTAGCCACAGGTTTTCAAATGATCACATTTCAGAATAGGTTTTTAGCCTGTAATTAG
GCCTCATCCCCTTTGACCTAAATGTCTTACATGTTACTTGTTAGCACATCAACTGTATCA
CTAATCACCATCTGTTTTTGTGGGATGTGCTGCAGCATTTCCCAAAAAACTTTACGTGTA
ATGTTGCAAAATGAATGTACTCAGACATTCTTAATTTTTACTTAGGGCAGACCAACTCTT
TGAGTCTCTCTTGGACTTATATATACAGATATCTTAAGAGTGGGAATGTAAAGCATAACC
TAATTCTCTTTCCTATAGAGATTCTATTTTATTTAAAATCTATTTTTACACTAGTTAGAA
TCCTGCTGTTTTGGATCAAGTACTTGTCTTGCATGTCTGACCTTGCAGAAGCTGGGGTGG
ATCATAGCATACTAATGAAGAGAATTAGAAGTAGTTTACAAAGCTCGCTCACTCCTCATT
TCTCTGTGATCCCTTCTATCCAGTGGCCCCACCACCACCTGGGAAAACAGATTTTTCAGT
ACAGGTGGGATAAATGCTCTGAAAGGCTGTGCCCAGAGGAATGAGCAAATAGGCAAGTGT
TTCCAAACTACTTGGAGGTTTACAAAAAATATGTCCCAGAAAAAAAAAAAACTCGTGCCGA
ATTCGGCACGAGGGAGGACCTGACTCCCCTCACCTTTGGGGTGCAGGAACTCAACCTGAC
TGGCTCCTTCTGGAATGACTCCTTTGCCAGGCTCTCACTGACCTATGAACGACTCTTTGG
TACCACAGTGACATTCAAGTTCATTCTGGCCAACCGCCTCTACCCAGTGTCTGCCCGGCA
CTGGTTTACCATGGAGCGCCTCGAAGTCCACAGCAATGGCTCCGTCGCCTACTTCAATGC
TTCCCAGGTCACAGGGCCCAGCATCTACTCCTTCCACTGCGAGTATGTCAGCAGCCTGAG
CAAGAAGGGTAGTCTCCTCGTGGCCCGCACGCAGCCCTCTCCCTGGCAGATGATGCTTCA
GGACTTCCAGATCCAGGCTTTCAACGTAATGGGGGAGCAGTTCTCCTACGCCAGCGACTG
TGCCAGCTTCTTCTCCCCCGGCATCTGGATGGGGCTGCTCACCTCCCTGTTCATGCTCTT
CATCTTCACCTATGGCCTGCACATGATCCTCAGCCTCAAGACCATGGATCGCTTTGATGA
CCACAAGGGCCCCACTATTTCTTTGACCCAGATTGTGTGACCCTGTGCCAGTGGGGGGGT
TGAGGGTGGGACGGTGTCCGTGTTGTTGCTTTCCCACCCTGCAGCGCACTGGACTGAAGA
GCTTCCCTCTTCCTACTGCAGCATGAACTGCAAGCTCCCCTCAGCCCATCTTGCTCCCTC
TTCAGCCCGCTGAGGAGCTTTCTTGGGCTGCCCCCATCTCTCCCAACAAGGTGTACATAT
TCTGCGTAGATGCTAGACCAACCAGCTTCCCAGGGTTCGTCGCTGTGAGGCGTAAGGGAC
ATGAATTCTAGGGTCTCCTTTCTCCTTATTTATTCTTGTGGCTACATCATCCCTGGCTGT
GGATAGTGCTTTTGTGTAGCAAATGCTCCCTCCTTAAGGTTATAGGGCTCCCTGAGTTTG
GGAGTGTGGAAGTACTACTTAACTGTCTGTCCTGCTTGGCTGTCGTTATCGTTTTCTGGT
GATGTTGTGCTAACAATAAGAAGTACACGGGTTTATTTCTGTGGCCTGAGAAGGAAGGGA
CCTCCACGACAGGTGGGCTGGGTGCGATCGCCGGCTGTTTGGCATGTTCCCACCGGGAGT
GCCGGGCAGGAGCATGGGGTGCT

K008-1 (a novel gene whose product bears homology to ankyrin containing proteins)

AAATATAGATCTCGACCTCGAAATTGTACAGTCTTTGCAGCATGGTCATGGAGGATGGAC
TGATGGAATGTTTGAGACTTTAACTACAACTGGAACTGTTTGTGGCATTGATGAAGATCA
TGACATTGTAGTACAGTATCCAAGTGGCAATAGGTGGACCTTCAATCCTGCTGTTCTCAC
TAAAGCGAACATTGTCCGAAGTGGAGATGCTGCTCAGGGTGCAGAAGGAGGCACCTCGCA
GTTTCAAGTGGGTGATCTTGTACAAGTTTGTTATGACCTGGAACGAATTAAACTTCTACA
AAGAGGACATGGAGAATGGGCTGAAGCGATGCTTCCAACTTTAGGTAAAGTTGGCCGAGT
ACAACAGATTTATTCAGACAGTGATTTAAAGGTGGAAGTTTGTGGAACATCTTGGACATA
CAATCCAGCAGCAGTTTCCAAGGTGGCATCTGCAGGATCAGCCATTAGCAATGCATCTGG
TGAAAGACTCTCACAACTCCTGAAGAAATTATTTGAAACCCAAGAATCTGGTGACCTCAA
TGAAGAATTAGTTAAGGCTGCTGCCAATGGAGATGTTGCTAAAGTGGAAGATTTGCTTAA
AAGACCAGATGTGGATGTAAATGGGCAATGTGCTGGCCACACAGCTATGCAAGCTGCTAG
TCAGAATGGACATGTTGACATTTTGAAGTTACTTTTGAAGCAAAACGTGGATGTCGAAGC

FIG. 17E

AGAGGATAAAGATGGTGATAGAGCAGTTCACCATGCAGCTTTTGGAGATGAAGGCGCTGT
TATAGAAGTACTACATCGAGGTAGTGCTGATTTGAATGCTCGAAACAAGCGCCGACAGAC
ACCACTTCATATTGCTGTCAATAAAGGTCATCTTCAAGTTGTGAAGACTTTATTGGACTT
TGGCTGTCATCCCAGTCTCCAGGATTCTGAAGGTGATACCCCTCTTCATGATGCAATAAG
TAAGAAACGTGATGATATCCTAGCAGTTCTTTTGGAAGCTGGAGCAGATGTTACCATCAC
AAACAATAATGGATTTAATGCTCTGCATCATGCTGCACTAAGGGGAAATCCCAGTGCAAT
GCGTGTTTTACTATCTAAATTACCAAGACCATGGATTGTGGATGAGAAGAAAGATGATGG
TTATACTGCCTTACATCTGGCTGCCCTTAATAATCACGTAGAAGTGGCTGAACTGTTGGT
ACATCAGGGTAATGCAAACCTGGATATCCAGAATGTGAACCAACAAACTGCCCTACACCT
TGCTGTTGAACGACAGCATACCCAGATTGTTAGGCTTTTGGTCCGTGCAGGTGCCAAGCT
TGATATTCAGGATAAGGATGGGGATACTCCTTTGCATGAAGCTCTAAGGCATCACACTTT
GTCTCAGCTACGTCAGCTCCAAGATATGCAAGATGTGGGGAAGGTGGATGCTGCCTGGGA
GCCATCCAAAAACACGTTAATAATGGGACTTGGTACCCAGGGGGCAGAGAAGAAGAGTGC
AGCATCTATTGCCTGTTTCTTGGCAGCCAATGGTGCTGACCTGAGCATTCGAAATAAGAA
GGGTCAATCGCCACTTGATCTCTGTCCTGATCCGAATCTCTGCAAAGCACTGGCAAAGTG
TCATAAGGAAAAAGTCAGTGGTCAAGTGGGTTCTCGGAGTCCTTCTATGATTAGTAATGA
TTCTGAAACCTTAGAAGAGTGTATGGTGTGCTCAGATATGAAGAGAGATACTCTTTTTGG
TCCATGTGGACATATTGCTACCTGTTCTTTATGTTCTCCACGTGTCAAGAAATGCCTCAT
CTGTAAAGAACAGGTTCAATCCAGGACAAAGATTGAAGAATGTGTGGTATGCTCTGACAA
GAAAGCAGCTGTTCTTTTTCAACCCTGTGGCCACATGTGTGCTTGTGAGAACTGTGCTAA
CCTGATGAAAAAGTGTGTGCAGTGTCGAGCAGTAGTTGAACGAAGAGTGCCTTTCATTAT
GTGCTGTGGAGGGAAAAGTTCAGAAGATGCCACTGATGATATCTCAAGTGGGAATATTCC
AGTATTACAAAAGGACAAGGATAATACCAATGTCAATGCAGATGTGCAAAAGTTGCAGCA
ACAGTTACAAGACATTAAAGAGCAGACAATGTGCCCTGTGTGTCTAGATCGTCTGAAGAA
TATGATTTTCCTTTGTGGTCACGGAACCTGTCAACTCTGTGGAGACCGCATGAGTGAATG
TCCTATCTGTCGCAAGGCTATTGAACGAAGGATTCTTTTGTATTAACTAAGACACATGGT
GTATTTTGTTAGCTAATGTATCTAGTCATGAGATCTTAATAGGCTTTTGATCTAGTTGGA
AGTTCTGATGAGTTAATTTCTAATATCATAGTTTCTTTACTAGAGTATAATTGGGCTGTA
AATGTACCAGAACAAAAAACCCTACAAAATGGTGTTGGAAATTGTGTTTTTTGTTTTTGT
TTTAAATTTGAAACATCAAATTCATGTAACTCATAGGATAATTTACCTTTGGCTTCTAAG
AGGAAAGTCCTTTAAGGATATCCTTTTTTAAAAAATTGCATTTTTCTCTTATAATTTGTA
AATTTGTTGGATCTCAAAAGACATAATTCTTTGTGATCAGTTATCCTTCATTTCATCGTG
GTTTTACACAGTGAGTTGATAACAGGTTCTCTGAGAAGTCATGCATCAAATAAAAGAGGC
AGGTCAAACAATTATGTCACATGGTAAATTATAAAATGACAGTACAAGTTCCAGATAGTT
AAGGGAATACCGAAGGGATGATTCTTTTTTTAAGATAACAGGAAGTTACCCACATGTTTG
TTTCTGAATTCTTAGAGTAAATGGAAGCATAGAATGAGGGAATAATGACTTTGCATTTCT
CTTGTTTTCTAGATTCAAAAGGAACATTGTTTAACTTGAATCAGATTACCAGTTTCAAGG
TGACTGATAGACAAGAAAAGGAAAAATAAGCAATAATAGTGGGCAACTGAAGAGAAAAAA
AAAACGAGTATCTATTAACTGGCCACTAACAGTTGCCTTTCTTACATTAATTTATACACT
ATTTTGTTCAGCCAGTGTTTTTAAAAAAAATCTATGAAAAGTGTACTTCCGGTTTTCTGT
GATTACTTATCTGGGCTTGATCTGACCAGTGAAATGACATTGCCCTATTTGGACCTCTGA
GGTTCTATTTAGCTTTGCAGATGTACATAGTATCCCAGTGATCTGCAAAATTAATGCCTT
TTCCAAGAAAAAATCTTTTCTTCTCTGTATCAGTTAATTCTGACAGTGTTAGTGATTCTG
TCTTCATTATAGGCCTTATTTCCATTATCTCTTTCTTTATAGTATTTTTTGTTATAAAGA
AAACAGTCTTTCTGTGTATACCTACGGATGAGGGTATTATTTAAACTGCCAACAATATCC
AAGACATGGTCAATAACCTAATTATAAATACTTTAGAAAGAGTGACCAGGACATGTATAG
AAATGTCTGCTTACCTGTAGACTTT

FIG. 17F

K008-1

NIDLDLEIVQSLQHGHGGWTDGMFETLTTTGTVCGIDEDHDIVVQYPSGNRWTFNPAVL
TKANIVRSGDAAQGAEGGTSQFQVGDLVQVCYDLERIKLLQRGHGEWAEAMLPTLGKVG
RVQQIYSDSDLKVEVCGTSWTYNPAAVSKVASAGSAISNASGERLSQLLKKLFETQESG
DLNEELVKAAANGDVAKVEDLLKRPDVDVNGQCAGHTAMQAASQNGHVDILKLLLKQNV
DVEAEDKDGDRAVAAAAFGDEGAVIEVLHRGSADLNARNKRRQTPLHIAVNKGHLQVVK
TLLDFGCHPSLQDSEGDTPLHDAISKKRDDILAVLLEAGADVTITNNNGFNALHHAALR
GNPSAMRVLLSKLPRPWIVDEKKDDGYTALHLAALNNHVEVAELLVHQGNANLDIQNVN
QQTALHLAVERQHTQIVRLLVRAGAKLDIQDKDGDTPLHEALRHHTLSQLRQLQDMQDV
GKVDAAWEPSKNTLIMGLGTQGAEKKSAASIACFLAANGADLSIRNKKGQSPLDLCPDP
NLCKALAKCHKEKVSGQVGSRSPSMISNDSETLEECMVCSDMKRDTLFGPCGHIATCSL
CSPRVKKCLICKEQVQSRTKIEECVVCSDKKAAVLFQPCGHMCACENCANLMKKCVQCR
AVVERRVPFIMCCGGKSSEDATDDISSGNIPVLQKDKDNTNVNADVQKLQQQLQDIKEQ
TMCPVCLDRLKNMIFLCGHGTCQLCGDRMSECPICRKAIERRILLYZLRHMVYFVSZCI
ZSZDLNRLLIZLEVLMSZFLISZFLYZSIIGLZMYQNKKPYKMVLEIVFFVFVLNLKHQ
IHVTHRIIYLWLLRGKSFKDILFZKIAFFSYNLZICWISKDIILCDQLSFISSWFYTVS
ZZQVLZEVMHQIKEAGQTIMSHGKLZNDSTSSRZLREYRRDDSFFKITGSYPHVCFZIL
RVNGSIEZGNNDFAFLLFSRFKRNIVZLESDYQFQGDZZTRKGKISNNSGQLKRKKKRV
SINWPLTVAFLTLIYTLFCSASVFKKNLZKVYFRFSVITYLGLIZPVKZHCPIWTSEVL
FSFADVHSIPVICKINAFSKKKSFLLCISZFZQCZZFCLHYRPYFHYLFLYSIFCYKEN
SLSVYTYGZGYYLNCQQYPRHGQZPNYKYFRKSDQDMYRNVCLPVDF

MAIAP (a novel member of the "inhibitor of apoptosis" family)

CGGCACGAGCTCGTGCCGGGCAGGCCTGTGCCTATCCCTGCTGTCCCCAGGGTGGGCCCC
GGGGGTCAGGAGCTCCAGAAGGGCCAGCTGGGCATATTCTGAGATTGGCCATCAGCCCCC
ATTTCTGCTGCAAACCTGGTCAGAGCCAGTGTTCCCTCCATGGGACCTAAAGACAGTGCC
AAGTGCCTGCACCGTGGACCACAGCCGAGCCACTGGGCAGCCGGTGATGGTCCCACGCAG
GAGCGCTGTGGACCCCGCTCTCTGGGCAGCCCTGTCCTAGGCCTGGACACCTGCAGAGCC
TGGGACCACGTGGATGGGCAGATCCTGGGCCAGCTGCGGCCCCTGACAGAGGAGGAAGAG
GAGGAGGGCGCCGGGGCCACCTTGTCCAGGGGGCCTGCCTTCCCCGGCATGGGCTCTGAG
GAGTTGCGTCTGGCCTCCTTCTATGACTGGCCGCTGACTGCTGAGGTGCCACCCGAGCTG
CTGGCTGCTGCCGGCTTCTTCCACACAGGCCATCAGGACAAGGTGAGGTGCTTCTTCTGC
TATGGGGGCCTGCAGAGCTGGAAGCGCGGGGACGACCCCTGGACGGAGCATGCCAAGTGG
TTCCCCAGCTGTCAGTTCCTGCTCCGGTCAAAAGGAAGAGACTTTGTCCACAGTGTGCAG
GAGACTCACTCCCAGCTGCTGGGCTCCTGGGACCCGTGGGAAGAACCGGAAGACGCAGCC
CCTGTGGCCCCCTCCGTCCCTGCCTCTGGGTACCCTGAGCTGCCCACACCCAGGAGAGAG
GTCCAGTCTGAAAGTGCCCAGGAGCCAGGAGCCAGGGATGTGGAGGCGCAGCTGCGGCGG
CTGCAGGAGGAGAGGACGTGCAAGGTGTGCCTGGACCGCGCCGTGTCCATCGTCTTTGTG
CCGTGCGGCCACCTGGTCTGTGCTGAGTGTGCCCCCGGCCTGCAGCTGTGCCCCATCTGC
AGAGCCCCCGTCCGCAGCCGCGTGCGCACCTTCCTGTCCTAGGCCAGGTGCCATGGCCGG
CCAGGTGGGCTGCAGAGTGGGCTCCCTGCCCCTCTCTGCCTGTTCTGGACTGTGTTCTGG
GCCTGCTGAGGATGGCAGAGCTGGTGTCCATCCAGCACTGACCAGCCCTGATTCCCCGAC
CACCGCCCAGGGTGGAGAAGGAGGCCCTTGCTTGGCGTGGGGGATGGCTTAACTGTACCT
GTTTGGATGCTTCTGAATAGAAATAAAGTGGGTTTTCCCTGGAGGT

FIG. 17G

MAIAP

MGPKDSAKCLHRGPQPSHWAAGDGPTQERCGPRSLGSPVLGLDTCRAWDHVDGQILGQLRPLTEE
EEEEGAGATLSRGPAFPGMGSEELRLASFYDWPLTAEVPPELLAAAGFFHTGHQDKVRCFFCYGG
LQSWKRGDDPWTEHAKWFPSCQFLLRSKGRDFVHSVQETHSQLLGSWDPWEEPEDAAPVAPSVPA
SGYPELPTPRREVQSESAQEPGARDVEAQLRRLQEERTCKVCLDRAVSIVFVPCGHLVCAECAPG
LQLCPICRAPVRSRVRTFLSZARCHGRPGGLQSGLPAPLCLFWTVFWAC

Nor-90 (originally identified as an autoantigen in scleroderma pigmentosum patients)

GAACTGAGGAGCTTGTGGAGAAAAGCTATACACCAACAAATCTTGTTACTTCGAATGGAA
AAAGAAAACCAGAAACTTGAAGCAAGCAGAGATGAACTCCAGTCCAGAAAAGTTAAATTA
GACTATGAAGAAGTTGGTGCATGTCAGAAAGAGGTCTTAATAACTTGGGATAAGAAGTTG
TTAAACTGCAGAGCTAAAATCAGATGTGATATGGAAGATATTCATACTCTTCTTAAAGAA
GGAGTTCCCAAAAGTCGACGAGGAGAAATTTGGCAGTTTCTGGCTTTACAGTACCGACTC
AGACACAGATTGCCTAATAAACAACAGCCTCCTGACATATCCTATAAGGAACTTTTGAAG
CAGCTCACTGCTCAGCAGCATGCGATTCTTGTGGATTTAGGAAGGACGTTTCCTACTCAC
CCTTACTTTTCAGTACAGCTTGGGCCAGGACAGCTGTCACTGTTTAACCTCCTGAAAGCC
TATTCATTCTTTGCTGGACAAAGAATGGGATACTGTCAGGGGATCAGCTTTGTGGCTGGA
GTCCTGCTTCTGCACATGAGTGAAGAGCAAGCCTTTGAAATGCTGAAATTCCTCATGTAT
GACCTCGGCTTCCGCAAGCAGTACAGACCTGACATGATGTCGCTGCAGATTCAAATGTAC
CAGCTGTCCAGGCTCCTTCATGACTATCACAGAGATCTCTACAATCACCTTGAAGAAAAT
GAAATCAGCCCCAGTCTTTATGCTGCCCCCTGGTTCCTCACATTGTTTGCCTCTCAGTTT
TCATTAGGATTTGTAGCCAGAGTTTTTGATATTATTTTTCTTCAGGGAACTGAAGTTATA
TTCAAGGTTGCACTCAGCCTACTGAGCAGCCAAGAGACACTTATAATGGGAATGTGAGAG
CTTTGAAAATATTGTTGAGTTTCTTAAAAACACGCTACCTGATATGAATACCTCTGAAAT
GGAAAAAATTATTACCCAGGTTTTTGAGATGGATATTTCTAAGCAGTTGCATGCCTATGA
GGTGGAATATCATGTGCTACAGGATGAGCTTCAGGAATCTTCATATTCCTGTGAGGATAG
TGAAACTTTGGAGAAGCTGGAGAGGGCCAATAGCCAACTGAAAAGACAAAACATGGACCT
CCTAGAAAAATTACAGGTAGCTCATACTAAAATCCAGGCCTTGGAATCAAACCTGGAAAA
TCTTTTGACGAGAGAGACCAAAATGAAGTCTTTAATCCGGACCCTGGAACAAGAAAAAAT
GGCTTATCAAAAGACAGTGGAGCAACTCCGGAAGCTGCTGCCCGCGGATGCTCTAGTCAA
TTGTGACCTGTTGCTGAGAGACCTAAACTGCAACCCTAACAACAAAGCCAGATAGGAAAT
AAGCCATAATTGAAGAGCACGGCTCAGCAGAAAGTGCTCCTTAGAATACTACAGAGAGGA
AGAGCCTGCATGTCGCTGGCCCAAGGCTGGACCCTGAAGCTGATGGAACCACCTAATACT
GGTGCTGAGCTCCTAGTCACAGCAGGTGGACCTCGTGCTCATCAGAGCATGCCAATCTAA
GCCCATTGGACATAGTAGACTGGTTTTTGTTGTTGCTATGACATATAAATATATATATAA
AATGAACATAGTTCATGCTTTCAGATAAAATGAGTAGATGTATATTTAGATTAATTTTTT
TAGTCAGAACTTCATGAAATCCACACCAAAGGAAAGGTAAACTGAAATTTCCCTTGGACA
TATGTGAAATCTTTTTGTCTTTATAGTGAAACAAAGCCAGAGCATCTTTGTATATTGCAA
TATACTTGAAAAAAATGAATGTATTTTTTTCTCCAAAGAACAGCATGTTTCACTCAATGG
TGAAAAGGTGGAAACATTTATGTTAACTTTATGTGTTCTGTCTTGATATCTACTGACATT
GTCTATATGAGGAAAATGATTACTGGTCATGCTCCTGTGATTTTTTGGGAAGGTAGGGTC
ATTTCTCCCTGCCTGCTTTGTGCCAACTAGCATGTTGCATCTACTGCATTATGAATCTGG
TGGCTTACTTTTAAACATACTAAAAACAGTAGGACTTGGCTGAATCTACCCCCAGGTAAA
GGAGAATGTTGCTTATTTTTTAGCAAACTAACAGCCTTATTCTCAACTAAAATATCACAC
CTGAAAAATTTAATTTAGGACCTAAAATGTCTAGATTAGCTTTCTGCTTTTTTTATTTGA
ATAACTCATTCAGTTGTGAATGAATTCCTCTTTATTTGGTGCCACAGTCACCAAATGACA
AGGATTTGCCACTTTCCCACCAAATTGTGAGTGCTTGTAATTTAGGTCTCTCTACCTTAA

FIG. 17H

ATTCAGTATAAGGAAACGTAATTATGATTGATTTTTTCCAAAGATGACAAGCTGTGTTGA
AATACATTTTTCTTTTGACCAATTGACAGAATCTAATAAGCTTTAATAATCTTCCCCTTT
TATGTGAAAAGTTTTGAGAACTGTGAAATGTTTAGGAACAAACTGTTGAAATCCATTGGA
AGGGAAAAAAGAAAGTGGTACCAGTGTTACCAGCTCAACTAAAACCTGCAATTGTGCATT
TCAACTTTTCACTTCCTCAGCATACAAATAGCTCATTAGAAGACATTCACGCATGGTGGG
TATAGGCAAGGAAAGTAATTTTCAAAGTACATTTGCAGTTCTCTTTTTCAGAGATGATTC
TATGATAGCGCCTCTGAAAGTTGATGCAGCATTTTCGCCTTTCCAAAAAGTATTTATCCT
CACTGCTTTTTGCAGTACTTGTATTTTCACAGATGGATTATCTGGGGTAATTTTCTTCAA
AGGGAGTTTGTTATACACAGTGAAAATGTATTATAGAGTAGAATAGTAAAGCTCTAGGGG
TTTCAGAAAGCTTTGATGAACAGATGACAAACATCTGAAACCCCCTCCGCACTGTTACCC
AGTGTGTATATAATGACTTGTTATAGCTCAGTGTGCCCTTGAATCCATACAGTTTCTTAA
AAGACAATAAAATCTTATTAATAAAGTTAATGTAACTTCTAAGTTCTAGAAAATGCTGAT
TCTGTCTGCCCCATTCAATTGGGGGCTACTAATTGATTTGTTGCTTGGATTTCCTGAGAA
TTTCTCTATTTGTAGGAGGGGTTTTTTCTTTTTACGGTCTGTTGATGACAATTACTTTAT
GGGTGTGATGCACCGATGGTAGCCAAGGAATCTGTTGGGGAAGTTCGGAAAGAAACCTTT
TCTTTCTTTTATTCAGTTTAAAGTAAACTTTATCCTGGATGTTTAGAATCAACATTAAGA
GTTATATTATGGTGTTCAGAGATTAAGCTGACTTGGATACAATATTTTCTTTTGAAAATG
AATTTTCTTTTTCATTTGTGATTTTTAAAAAATGTTGCACCAGTTATGCTTCATGCATCG
TTACATCTTCATCAGGTTAATGTAATGTCTAGTTCCTTTGCAATAAATATATTGCTGC

BR-1 (a novel gene; likely an alternatively spliced form of BR-2)

GCTGACTGGCTAGCACAAAACAACCCTCCTCAAATGCTATGGGAAAGAACAGAAGAGGAT
TCTAAAAGCATTAAAAGTGATGTTCCAGTGTACTTGAAAAGGTTGAAAGGAAATAAACAT
GATGATGGTACGCAAAGTGATTCAGAGAACGCTGGGGCTCACAGGCGCTGTAGCAAACGT
GCAACTCTTGAGGAACACTTAAGACGCCACCATTCAGAACACAAAAAGCTACAGAAGGTC
CAGGCTACTGAAAAGCATCAAGACCAAGCTGTTACTAGCTCTGCGCATCACAGAGGGGGG
CATGGTGTTCCACATGGGAAATTGTTAAAACAGAAATCAGAGGAGCCATCGGTGTCAATA
CCCTTCCTACAAACTGCATTATTAAGAAGTTCAGGGAGTCTTGGGCACAGACCAAGCCAG
GAGATGGATAAAATGTTAAAAAATCAAGCAACTTCTGCTACTTCTGAAAAGGATAATGAT
GATGACCAAAGTGACAAGGGTACTTATACCATTGAGTTAGAGAATCCCAACAGTGAGGAA
GTGGAAGCAAGAAAAATGATTGACAAGGTGTTTGGAGTAGATGACAATCAGGATTATAAT
AGGCCTGTTATCAACGAAAAACATAAAGATCTAATAAAAGATTGGGCTCTCAGTTCTGCT
GCAGCAGTAATGGAAGAAAGAAAACCACTGACTACATCTGGATTTCACCACTCAGAGGAA
GGCACATCTTCATCTGGAAGCAAACGTTGGGTTTCACAGTGGGCTAGTTTGGCTGCCAAT
CATACAAGGCATATCAAGAAGAAAGGATAATGGAATTTTCTGCACCTCTTCCTTTAGAGA
ATGAGACAGAGATCAGTGAGTCTGGCATGACAGTGAGAAGTACTGGCTCTGCAACTTCCT
TGGCTAGCCAGGGAGAGAGAAGGAGACGAACTCTTCCCCAGCTTCCAAATGAAGAAAAGT
CTCTTGAGAGCCACAGAGCAAAGGTTGTAACACAGAGGTCAGAGATAGGAGAAAAACAAG
ACACAGAACTTCAGGAGAAAGAAACACCTACACAGGTATACCAGAAAGATAAACAAGATG
CTGACAGACCCTTGAGTAAAATGAACAGGGCAGTAAATGGAGAGACTCTCAAAACTGGTG
GAGATAATAAAACCCTACTTCACTTAGGCAGCTCTGCTCCTGGAAAAGAGAAAAGTGAAA
CTGATAAGGAAACTTCTTTGGTAAAGCAAACATTAGCAAAACTTCAACAACAAGAACAAA
GGGAGGAGGCTCAGTGGACACCTACTAAATTGTCTTCCAAAAATGTTTCAGGTCAGACAG
ATAAATGTAGGGAGGAAACTTTTAAACAAGAATCACAACCTCCAGAAAAAAATTCAGGAC
ATTCTACAAGCAAAGGAGACAGAGTGGCACAAAGTGAGAGCAAGAGAAGAAAAGCTGAGG
AAATTCTGAAAAGTCAGACTCCAAAGGGAGGAGACAAGAAGGAATCCTCCAAGTCATTAG
TGCGACAAGGGAGCTTCACTATAGAAAAACCCAGCCCAAACATACCCATAGAACTTATTC
CCCATATAAATAAACAGACTTCCTCTACTCCTTCTTCTTTAGCATTAACATCTGCAAGTA
GAATACGAGAAAGAAGTGAGTCTTTGGATCCTGATTCTAGTATGGACACAACCCTTATTC
TAAAAGACACAGAAGCAGTAATGGCTTTTCTAGAAGCTAAACTACGTGAAGATAATAAAA
CTGATGAAGGACCAGATACTCCCAGTTATAATAGAGACAATTCTATTTCACCAGAATCTG
ATGTAGATACAGCTAGTACAATCAGTCTGGTTACTGGAGAAACTGAAAGAAAGTCAACCC
AAAAGCGAAAGAGTTTCACTAGCCTCTATAAAGATAGGTGTTCCACAGGTTCTCCTTCCA
AAGATGTTACAAAATCATCATCTTCAGGTGCTAGGG

FIG. 17I

BR-2 (a novel gene; 5' end; likely an alternatively spliced form of BR-1)

GGATGACGTAGCTTTGCCAAAGACTTAGAAGCTAAGCAGAAAATGAGCTTAACATCCTGG
TTTTTGGTGAGCAGTGGAGGCACTCGCCACAGGCTGCCACGAGAAATGATTTTTGTTGGA
AGAGATGACTGTGAGCTCATGTTGCAGTCTCGTAGTGTGGATAAGCAACACGCTGTCATC
AACTATGATGCGTCTACGGATGAGCATTTAGTGAAGGATTTGGGCAGCCTCAATGGGACT
TTTGTGAATGATGTAAGGATTCCGGAACAGACTTATATCACCTTGAAACTTGAAGATAAG
CTGAGATTTGGATATGATACAAATCTTTTCACTGTAGTACAAGGAGAAATGAGGGTCCCT
GAAGAAGCTCTTAAGCATGAGAAGTTTACCATTCAGCTTCAGTTGTCCCAAAAATCTTCA
GAATCAGAATTATCCAAATCTGCAAGTGCCAAAAGCATAGATTCAAAGGTAGCAGACGCT
GCTACTGAAGTGCAGCACAAAACTACTGAAGCACTGAAATCCGAGGAAAAAGCCATGGAT
ATTTCTGCTATGCCCCGTGGTACTCCATTATATGGGCAGCCGTCATGGTGGGGGGATGAT
GAGGTGGATGAAAAAAGAGCTTTCAAGACAAATGGCAAACCTGAAAAAAAAAACCATGAA
GCTGGAACATCAGGGTGCAGCATAGATGCCAAGCAAGTTGAGGAACAATCTGCAGCTGCA
AATGAAGAAGTACTTTTTCCTTTCTGTAGGGAACCAAGTTATTTTGAAATCCCTACAAAA
GAATTCCAGCAACCATCACAAATAACAGAAAGCACTATTCATGAAATCCCAACAAAAGAC
ACGCCAAGTTCCCATATAACAGGTGCAGGGCATGCTTCATTTACCATTGAATTTGATGAC
AGTACCCCAGGGAAGGTAACTATTAGAGACCATGTGACAAAGTTTACTTCTGATCAGCGC
CACAAGTCCAAGAAGTCTTCTCCTGGAACTCAAGACTTGCTGGGGATTCAAACAGGAATG
ATGGCACCCGAAAACAAAGTTGCTGACTGGCTAGCACAAAACAACCCTCCTCAAATGCTA
TGGGAAAGAACAGAAGAGGATTCTAAAAGCATTAAAAGTGATGTTCCAGTGTACTTGAAA
AGGTTGAAAGGAAATAAACATGATGATGGTACGCAAAGTGATTCAGAGAACGCTGGGGCT
CACAGGCGCTGTAGCAAACGTGCAACTCTTGAGGAACACTTAAGACGCCACCATTCAGAA
CACAAAAAGCTACAGAAGGTCCAGGCTACTGAAAAGCATCAAGACCAAGCTGTTGTGTTT
GGAGTAGATGACAATCAGGATTATAATAGGCCTGTTATCAACGAAAAACATAAAGATCTA
ATAAAAGATTGGGCTCTCAGTTCTGCTGCAGCAGTAATGGAAGAAAGAAAACCACTGACT
ACATCTGGATTTCACCACTCAGAGGAAGGCACATCTTCATCTGGAAGCAAACGTTGGGTT
TCACAGTGGGCTAGTTTGGCTGCCAATCATACAAGGCATGATCAAGAAGAAAGGATAATG
GAATTTTCTGCACCTCTTCCTTTAGAGAATGAGACAGAGATCAGTGAGTCTGGCATGACA
GTGAGAAGTACTGGCTCTGCAACTTCCTTGGCTAGCCAGGGAGAGAGAAGGAGACGAACT
CTTCCCCAGCTTCCAAATGAAGAAAAGTCTCTTGAGAGCCACAGAGCAAAGGTTGTAACA
CAGAGGTCAGAGATAGGAGAAAAACAAGACACAGAACTTCAGGAGAAAGAAACACCTACA
CAGGTATACCAGAAAGATAAACAAGATGCTGACAGACCCTTGAGTAAAATGAACAGGGCA
GTAAATGGAGAGACTCTCAAAACTGGTGGAGATAATAAAACCCTACTTCACTTAGGCAGC
TCTGCTCCTGGAAAAGAGAAAAGTGAAACTGATAAGGAAACTTCTTTGGTAAAGCAAACA
TTAGCAAAACTTCAACAACAAGAACAAAGGGAGGAGGCTCAGTGGACACCTACTAAATTG
TCTTCCAAAAATGTTTCAGGTCAGACAGATAAATGTAGGGAGGAAACTTTTAAACAAGAA
TCACAACCTCCAGAAAAAAATTCAGGACATTCTACAAGCAAAGGAGACAGAGTGGCACAA
AGTGAGAGCAAGAGAAGAAAAGCTGAGGAAATTCTGAAAAGTCAGACTCCAAAGGGAGGA
GACAAGAAGGAATCCTCCAAGTCATTAGTGCGACAAGGGAGCTTCACTATAGAAAAACCC
AGCCCAAACATACCCATAGAACTTATTCCCCATATAAATAAACAGACTTCCTCTACTCCT
TCTTCTTTAGCATTAACATCTGCAAGTAGAATACGAGAAAGAAGTGAGTCTTTGGATCCT
GATTCTAGTATGGACAC

FIG. 17J

Gene AS (encodes a novel gene product; may be anti-sense of tyrosinase-replated protein-2)

AAAAGGAGGAGGCTTAATCAATATTGGGGGGGGGGTTATTATTAGATATCACAAATTGTC
AGGTCTATCTTTATTTGAAGGTAGAGGTAGCCTCAAGCACTTTAGTTGGGTTTGTTAAAC
AAGCAAGCAAAGCGGAAACTACAGCTAAGCATCTTCTGAATGAGATCATCATCACTATAG
AAGAACCTATGTCAAAGATCTTCAACTCAAGAAGGAACAGTGAGGATTAGTTCCTTTATT
GTCAGCGTCAGAACTGTGGCTTGGCCAGCCTCTTCTCTTAGGTAAGGCATGAGCACCCTA
GGCTTCTTCTGTGTATCTCTTGCTGCTTAAATGTGTCTCCATTAGGGGTGTATATCCTTT
TCGAAGTCTTCTATATTGAAGAAAAGCCAACAGCACAAAAAGACCAACCAAAGCCACCAG
TGTTCCCATGACTACTAAGAGAGTTGTGGGCCAACCTGGAGTTTCTTCAACTGAAACTGG
CAGATCGATGGCATAGCTGTAGCCAAGTTGGTCTGAGGTTAAAAAGAGTTCTTCATTAGT
CACTGGAGGGAAGAAAGGAACCATGTTGTACATCCGATTGTGACCAATAGGGGCCAGCTC
CTGAGGCCAGGCATCTGCAGGAGGATTAAATCTTTTCATCCACTCATCAAAGATGGCATC
AGTAAAGGAATGAAGAACCACAAAAATGGGATCATTGGCGGCTGAATGTGGCAAAGCGTT
TGTCCCGTTCAGGAAGGAATGAACCAAATTATGAAGGCTCATCACTTGAGAATCCAGAGT
CCCATCTGCTTTATCAAACCCTTCCAAAGCATTCCTGAAACTGAAGGTAGAGTTCTGGAA
GAAGGGAGGATTGTCAAACTTCTGGAGAGACAGGCAATCTCGTATGTCTTTTAAGGTTGG
CAATTTCATGCTGTTTCTTCCCATTTGATTTCTTCTCAGCAAACCTTCATAGGTTCCATT
GCACAAGGTGACCAGGTGGTTGTAGTCATCCAAGCTATCACAGACAGTTTCCCAGCTGGA
GAATCTTGAGTTCCGACTAATCAGAGTCGGATCGTCTGGTCTCGCTGCCCCAAACAGCTG
GTCTGTACACACATCACACTCGTTCCTCCCAGTGGCAAAGTTCCAGTAGGGCAAAGCAAA
AGACTCATTGCCAATGAGTCGCTGGAGATCTCTTTCCAGACACAACAAATGGTACCGGTG
CCAGGTAACAAATGCAGGTCCTTGATGTGAGAAATCTATGGCCCTGTAGGGGCGTCCTGG
TCCTAATAATGTATCTCTAACAGAATAATAATGGAGCCACACAAAAAAATCATAAACACT
GCAGTTGGCAAACTGCGGCTGGGTTCCATTGGGCCCAAGCAGGCCCAGCCAGTGTTGTGT
GGTGATCACGTAGTCGGGGTGTACTCTCTTCTTCGCGAGATCTAAGGCGCCCAAGAACTG
CTCTCTTTCCTGAGGACTCAAGGAATGGATGTTCTGCCGAATCACTGGTGGTTTCTTCCG
CTCGCAGTTGGGACCGGTCCAGCCAAACTTGCAGTCTCCACAATTATAGCCGGCAAAGTT
TCCTGTGCACTTGCAGGTCCGGTGGAAGAATTTTCTTGGCCACAGCTCACGGTCATCCTG
GTTTCGTAGGATGTAGGGACCACTCCAGGGCCTTGTGTCGGCTCGCACCTCTGTGCACTG
CCCCCGGCCTTGCTGAGAGCCACAGACATTGGCCGACTCTGCACCCAGGCGTGGGCAGCA
CTCCTTGTTCACTAGGCTGTCCACCGTCATGCAGACTCGGGGGAACTGACCCTGGGCTCC
TGGCAGGATTTTGCAGCCCAAGCAACTGAGCAGAAACCCCCACCAAAGGGGGCTCATGGC
TTTATAATTGGGAGAGCTCTCTCTCTCTCTTACTTTCCTTGTCTCTGTCGTACTTTTCTC
CTTATCTTCTACTCTTTCAGTCTTTTCTTTTCAGTATTTTTTATTTTTCTTTGCTTTCTA
TTCCTTTCTTCTTAAAAAAATACCCACAAGAATCACAGAGGTTACATGTGTGCACGGTTA
CATGTGTGCACATGTGTACATGAACGTGCACACACAATTTTATGTGATTCAAACAACTAA
CAGACTTAATTTCCTTAGAAGCGCCTCTAACAACCAAATTTAATGAGGGTAGCGCTTCTC
ACCATCTTCCCCCGTTAAGTCAGGCTTTGTCTAATTGAGTTAATTTACAGAGCACCCAGT
CATACTACTTATTATGCTGGTATTTCTAAACCCTCTCCCTCCCTCCTTAGCTCTTGACTT
TAATCTCGTGCCGAATTCGGCACGAGAATTGTTAAAACAGAAATCAGAGGAGCCATCGGT
GTCAATACCCTTCCTACAAACTGCATTATTAAGAAGTTCAGGGAGTCTTGGGCACAGACC
AAGCCAGGAGATGGATAAAATGTTAAAAAATCAAGCAACTTCTGCTACTTCTGAAAAGGA
TAATGATGATGACCAAAGTGACAAGGGTACTTATACCATTGAGTTAGAGAATCCCAACAG
TGAGGAAGTGGAAGCAAGAAAAATGATTGACAAGGTGTTTGGAGTAGATGACAATCAGGA
TTATAATAGGCCTGTTATCAACGAAAAACATAAAGATCTAATAAAAGATTGGGCTCTCAG
TTCTGCTGCAGCAGTAATGGAAGAAAGAAAACCACTGACTACATCTGGATTTCACCACTC
AGAGGAAGGCACATCTTCATCTGGAAGCAAACGTTAGGTTTCACAGTGGGCTAGTTTGGC
TGCCAATCATACAAGGCATGATCAAGAAGAAAGGATAATGGAATTTTCTGCACCTCTTCC
TTTAGAGAATGAGACAGAGATCAGTGAGTCTGGCATGACAGTGAGAAGTACTGGCTCTGC
AACTTCCTTGGCTAGCCAGGGAGAGAGAAGGAGACGAACTCTTCCCCAGCTTCCAAATGA
AGAAAAGTCTCTTGAGAGCCACAGAGCAAAGGTTGTAACACAGAGGTCAGAGATAGGAGA
AAAACAAGACACAGAACTTCAGGAGAAAGAAACACCTACACAGGTATACCAGAAAGATAA
ACAAGATGCTGACAGACCCTTGAGTAAAATGAACAGGGCAGTAAATGGAGAGACTCTCAA
AACTGGTGGAGATAATAAAACCCTACTTCACTTAGGCAGCTCTGCTCCTGGAAAAGAGAA
AAGTGAAACTGATAAGGAAACTTCTTTGGTAAAGCAAACATTAGCAAAACTTCAACAACA
AGAACAAAGGGAGGAGGCTCAGTGGACACCTACTAAATTGTCTTCCAAAAATGTTTCAGG
TCAGACAGATAAATGTAGGGAGGAAACTTTTAAACAAGAATCACAACCTCCAGAAAAAAA
TTCAGGACATTCTACAAGCAAAGGAGACAGAGTGGCACAAAGTGAGAGCAAGAGAAGAAA
AGCTGAGGAAATTCTGAAAAGTCAGACTCCAAAGGGAGGAGACAAGAAGGAATCCTCCAA
GTCATTAGTGCGACAAGGGAGCTTCACTATAGAAAAACCCAGCCCAAACATACCCATAGA
ACTTATTCCCCATATAAATAAACAGACTTCCTCTACTCCTTCTTCTTTAGCATTAACATC
TGCAAGTAGAATACGAG

FIG. 17K